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Illustrating What Need of Men?



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EDITORIAL

A LOT of folks around our office have been admiring the cover for this issue ever since we thumb-tacked the proof up on the wall. Then they ask, "What's it all about? Just another one of your crazy ideas?"

We have the answer—and it crushes them every time. It is an incontrovertible answer, provided for us unwittingly by no less a person than an Air Force general who is chief of bioastronautical research. We quote: "The chimpanzees who will precede the Mercury astronauts into space all volunteered for the job. Brig. Gen. Don D. Flickinger, Air Force bioastronautical research chief told the House Space Committee in just released testimony: We train him to sit quietly in a small seat for several days, then offer him a banana on the one hand and an apple on the other. If he takes the banana, he is a volunteer, and he almost always does."

* * * * *

In a couple of months we will

have a special surprise for you in this space, courtesy of the Grand Old Man of science-fiction, the founder of *Amazing Stories*, Hugo Gernsback. (More about that in this space next issue.) But recently Mr. Gernsback gave a talk to the members of the Science Fiction Society of the Massachusetts Institute of Technology. Some of the things he said were important—especially considering their source. Some of them are controversial. Here, in edited form, are the parts of his talk that particularly interested us, and which we thought would interest you:

There are not more than a dozen real science fiction authors in the world today. Who are the outstanding authors who really write the best imaginary science stories today? The following is perhaps as good a list as any, keeping in mind the accent on science:

Dr. Arthur C. Clarke

Dr. Isaac Azimov

Robert A. Heinlein
A. E. van Vogt
Clifford D. Simak
Theodore Sturgeon
Hal Clement

The works of these highly imaginative authors certainly will exemplify the early slogans which I used to adorn the mastheads of AMAZING STORIES in 1926 *Extravagant Fiction Today—Cold Fact Tomorrow.*

You will observe that the invariable *leitmotif* of my interpretation of science fiction has remained the same to this day: *It must mirror the present or the future in acceptable and plausible scientific terms.*

Purse science fiction authors are very scarce. Sooner or later they run out of scientific ideas or plots, and if they are the rare scholars who also excel in good literature to boot, they often find it easier and more profitable to write non-scientific stories or novels.

And let us make no mistake, the average science fiction author does not write masterpieces in English. Often the quality of the genre's literature is mediocre. Yet we should never lose sight of the important truth that the outstanding science fiction author need not be overconcerned with *belles lettres*. His wholly unliterary story, such as Jules Verne's imaginary submarine in "20,000 Leagues Under the Sea", may set scientists and technicians

aflame for years, inspiring them to translate into reality that which the science fiction author's imagination blueprinted in great detail and perfection.

Curiously too, few good professional scientists are also good science fiction authors. They are, as a rule, dedicated to their particular field, which seldom allows them to venture into uncharted depths. They must always think of their reputations first, hence they are loath to make what to them might appear as sensational predictions. The science fiction author has no such compunctions. As long as he is on safe ground as to his science, he can let his imagination soar illimitably.

Why am I so concerned in all this harangue on the science emphasis of science fiction? I think I have an excellent reason.

From the very beginning I have always strongly felt that science fiction was one of the world's greatest vehicles for the propagation of coming scientific trends, as well as an actual trial ground of man's future technical progress.

When on Oct. 4, 1957, the actual space age burst upon a thunderstruck world with Sputnik I in orbit, Americans were dismayed and everyone was astonished, except the million science fiction fans. To them of course it was ancient hat, and how wrathful they became against our gov-

ernment and our scientists for the poor judgment and unprogressiveness that caused us to miss the space boat and fall into second place as a technologically leading nation.

Today our country is in mortal danger. We are no longer first in many scientific-technical endeavors. Sooner or later we are certain to be eclipsed IN IDEAS by the U.S.S.R. unless we change our ways in outgenerating the Russians in the bold SCIENTIFIC IDEAS that have been our heritage for generations. The Soviet Union recently discovered science fiction and is now actively engaged in exploiting it to the hilt. They are reprinting all the best science fiction literature of the world—our own, German, English, French and others.

Why does the U.S.S.R. suddenly go into science fiction so assiduously? The reason is elementary. The Russians know only too well that *before there can be any progress there must be ideas*. And what is one of the greatest proving grounds for future scientific progress? Science fiction, of course. It is at once one of the cheapest and most universal sieves with which to catch ideas. These ideas absurd as often they may sound, frequently prove to be the very stimulus some sober scientist or technician needs in his work.

In recent years science fiction

unfortunately has degenerated away from the classic concept of the genre with its strong emphasis on science. There being a continuous scarcity of good science story authors, publishers of science fiction magazines and books must perforce take refuge in pseudo-science yarns and more and more fantasy. This stems also from the curious fact that far too many publishers mistakenly classify science fiction in their minds exclusively as entertainment.

They do not know that science fiction is educational first and foremost because it always aims to instruct. Second, it is a trailblazer in that it heralds new ideas and trends. Third, it has a sacred mission in the future progress of the world.

What of the future of science fiction? I see not only a very healthy renaissance for the art but I truly believe that in the future science fiction may attain a commanding rank in literature, second to none.

It has been said that the space age belongs to the young. Equally true is the fact—it has always been a fact since its inception—that *science fiction is the domain of youth*. The gifted young mind often has the faculty of an uninhibited, intuitive, forceful imagination that can soar and ferret out the secrets of nature.



Illustrated by FINLAY

Complete Short Novel

By A. BERTRAM CHANDLER

When the Dream Dies, What of the Dreamer?

CHAPTER 1

IT WAS Kemp's dream, although we shared part of it. It was Kemp's dream, but Jim Larsen participated in it, and Dudley Hill, and myself. It was a

dream that is not uncommon among spacemen, especially such spacemen as ply their trade out and away from the well serviced shipping routes. It was a dream that some few spacemen have made come true.



Alan Kemp, when I first met him, was Chief Officer of the old *Rimhound*. He was a typical enough Rim Runners officer inasmuch as he, like most of us in that employ, had served in big ships before coming out to the Rim. He retained a dignity, almost a pomposity of bearing that didn't quite match either the shabbiness of his uniform or the decrepitude of his vessel. For the rest, he was a big man, tall, grey haired and with the bleak blue eyes that spacemen always seem to own in fiction but so seldom do in fact. But he was, when you got to know him, when you got past his reserve, a good shipmate, a good friend. Had he not been that, the rest of us would never have accompanied him in his venture.

Old Jim Larsen was *Rimhound's* Second Mannschenn Drive Engineer. We all called him "Old Jim". On meeting him for the first time, age was the first impression you gained. The second one was of alertness, aliveness, of somehow indestructable youth that looked out from behind his grey eyes, that made nonsense of his bald head, withered frame and wrinkled face. Nobody knew just how old he was. His Chief Interstellar Drive Engineer's Certificate had been folded and refolded many times so that the date of birth on this piece of parchment was

illegible. It was strongly suspected that this date was nothing like the one that he used when signing a ship's Articles. Also, the Certificate carried an Ehrenhaft Drive endorsement, and the last of the Ehrenhaft Drive ships, the gaussjammers, was broken up before I was born.

Dudley Hill was Third Mate. Like Kemp, he had served in the big ships of the Interstellar Transport Commission. Unlike Kemp, he had not waited until he was a senior officer before he had resigned from the Commission's service. Rumor had it that he had been asked to resign, that he had been implicated in the collision of *Beta Scorpii* with an asteroid in the Rigellian planetary system. Rumor had it, too, that he had been made the scapegoat and that *Beta Scorpii's* Master, who possessed powerful friends in the Commission's upper hierarchy, was responsible for the error of judgment that resulted in the near-wreck. However, Rim Runners, chronically short of officers, ask no questions and Dudley was as sober and reliable a spaceman as any on the Rim, and more so than most.

And myself? I was *Rimhound's* Purser, the spacefaring office boy, as I was sometimes called. Like the others, I'd drifted out to the Rim. I was, rather more years ago than I care to re-

member, once in the Waverley Royal Mail. The Waverley Royal Mail has rather old fashioned ideas as to what constitutes gentlemanly conduct on the part of its officers. (The Kingdom of Waverley, of course, is the last stronghold of old fashioned ideas.) The Waverley Royal Mail doesn't like divorce cases in which the evidence has been collected aboard one of its ships. The Waverley Royal Mail doesn't like Pursers who are named as co-respondents.

So . . .

Anyhow, we'd served together aboard *Rimhound* for some months. We'd got to know each other, had learned a great deal about each other's backgrounds. Alan was the only one of the four of us who was married. I'd met his wife quite a few times when the ship was in at Port Farewell, on Faraway, and, each time, had envied Alan.

Veronica doesn't come into the story, as a matter of fact, not as a person—although her influence played a great part. Veronica was lovely. She was a Carinthian—and if you've ever met any of the women from that planet you'll be able to guess what she was like. I don't know why or how it is, but human stock on Carinthia seems to have mutated slightly, to have developed along the lines of the Siamese cat.

That, I know, is biological nonsense, but it's the best way of giving an impression of their coloring, their sleekness, their grace. If you like Siamese cats—and I do, and Alan did—you'll like the women of Carinthia.

Alan had met Veronica when she was travelling out to the Rim in the old *Delta Sextans*, of which vessel he was Chief Officer. He'd fallen for her, hard. He'd have been willing to have made his home on any planet of the Galaxy as long as she was there—but I'm inclined to think that he was rather shaken when she announced her firm intention of living on Faraway. The Interstellar Transport Commission doesn't maintain a regular service to the Rim and so, throwing away his years of seniority, Alan left their employ and joined Rim Runners.

So there we were, the four of us, in *Rimhound* when she was switched off the usual tramlines—the Lorn, Faraway, Ultimo, Thule and Eastern Circuit run—and chartered to the Shakespearian Line. It made a change. It was a plunge in towards the Center; not a very deep plunge, though. The Shakespearian Sector may not be officially regarded as part of the Rim, but it's so far out that the night skies of its worlds display only a sparse sprinkling of stars.

We carried a full cargo of ag-

ricultural machinery from Port Farewell, on Faraway, to Port Fortinbras, on Elsinore. It was our luck (bad luck, we thought at first) to arrive there in time for the beginning of the cargo handlers' strike, an industrial dispute that dragged on and on. As a result of this long period of enforced idleness there was ample planet leave. And there was, too, ample time for those of us with homes and families to become more than usually browned-off with a means of livelihood that made long periods of separation inevitable, that entailed the occasional lengthening of such periods by the stubbornness of trade union leaders and employers of labor on distant planets.

Of the four of us, Alan Kemp was the most browned-off. We were not surprised. We knew him well by this time, knew his moods, knew that even a month away from Veronica was, for him, little short of eternity. I know this much—if I'd been married to her my spacefaring days would have been over, even if the only shore employment offering had been shovelling sludge in the sewage conversion plant. But Alan was different.

Even so, there could have been worse worlds for a hold-up than Elsinore. It's a pleasant enough hunk of dirt. The land is mainly flat, and fertile and well wooded.

There are no extremes of temperature except at the Poles and at the Equator. There are almost no heavy industries. The people are an outwardly stolid breed, running to blondness and fatness, both men and women. In spite of their stolidity (or because of it) they are inveterate gamblers. They gamble on the turn of a card, on the fall of a coin or the dice. They make wagers on horse races, on dog races, on races between representatives of such of the indigenous fauna as are noted for fleetness of foot or wing. Every town—every village, even—boasts its Casino. Then, to rake in such folding money as may still be loafing around, there are private lotteries, and municipal lotteries, and state lotteries.

Oddly enough, none of us was a gambler. Come to that we were rather deficient in all the vices (with the exception of old Jim Larsen) leading, by Rim Runner standards, lives of quite exceptional virtue. But after a few weeks on Elsinore we began, more and more, to frequent the taverns in and around Fortinbras. Alan Kemp was not often one of the party; about once a week, however, he would declare that he had to get off the ship before he was driven even further round the bend than he was already, and join us.

He was always a rather mor-

bid drinker and liked to drink in morbid surroundings. When he was one of the party we invariably finished the evening at *The Poor Yorick*, an establishment notorious for its funereal decor. We would sit around a coffin shaped table drinking beer from mugs that were facsimiles of human skulls—they even had the horrid *feel* of old bone—listening to the fine selection of funeral marches that was the only music obtainable from the jukebox, the casing of which was the work of a monumental mason. The dim lighting was by flickering, smoking tallow candles. The floral decorations took the form of floral tributes.

The night that it all started, the night that the dream began to come true, Alan was in fine form. There had been a mail in that morning—the Commission's *Epsilon Crucis*, inbound from the Rim—and there had been no letters for our Chief Officer. The inevitable result was that he was both sulking and worrying.

"Space," he said, for about the fifth time that evening, "is no life for a civilized man."

"You," I told him, "are not a civilized man. You know damn' well that you could never settle ashore. Ships are your life."

"That might have been true," he said, "before I met Veronica. It's not true now."

"Then why don't you just get the hell out of it?" asked Jim Larsen.

"Given a job that pays as well as this," said Alan, "I would."

"You wouldn't," I said. "You're too fond of being a big frog in a small puddle. You've been a senior officer too long—first in the Commission's ships, then with Rim Runners. And you think you might as well become Master now."

"All right," he said. "Perhaps I do. But there's only one way to be really happy as Master, and that's to be Owner as well." He sipped his beer reflectively. "A little ship could be fitted in on the Eastern Circuit without trampling on our revered employers' corns too heavily. A shuttle service, say, between Mellise and Grollor . . ."

"Even little ships cost big money," pointed out Dudley Hill gloomily.

Old Larsen laughed. "This is the world to get it on. What about the lotteries? If you aren't in, you can't win."

"The trouble," I told them, "is that money just can't be taken off Elsinore. "Currency regulations and restrictions and all the rest of it."

"Your point," said Alan, "is purely academic. Surely you know by this time that it is always somebody else who wins prizes in lotteries. I'll prove it."

He beckoned to the waiter, a ca-
daverous, black-clad individual.
"I suppose that you keep books
of lottery tickets here?"

"Indeed, yes, sir. Tattersall's?
Elsinore State? Fortinbras Mu-
nicipal?"

"Which one is drawn the
first?"

"Tattersall's sir."

"Then I'll take a ticket. A los-
ing ticket."

The man smiled. "The *winning*
ticket, sir."

"Oh, no. If I hold it, it can't
possibly win."

"As you say, sir. That will be
two dollars."

"I'm prepared to pay to prove
my point," said Alan glumly.

Two days later, he learned
that he had won fifty thousand
Elsinore dollars.

CHAPTER 2

KEMP, like many others in
similar circumstances, had
blandly assumed that all his wor-
ries would be over when he won
the big prize. Like those others,
he soon discovered that his wor-
ries were just starting.

"Until this moment," he grum-
bled, "I always thought that
lack of money was my biggest
trouble. Now I'm not so sure . . ."

"Come off it," I told him. I
looked at the solidograph of Ve-
ronica that stood on his desk, the
figurine in the cube of clear plas-

tic that seemed almost alive, that
held all the grace and loveliness
of her in miniature. "Come off
it, Alan. You've a beautiful wife
and a not so small fortune. What
more do you want?"

"She," he said patiently, "is on
Faraway. The fortune is here.
On Elsinore."

"There are such vehicles as
passenger carrying spaceships,
you know. I can see no reason
why the pair of you shouldn't
settle on Elsinore. You could set
yourselves up in some kind of
business."

"I've thought of that. But
there's only one kind of business
that we've ever dreamed of set-
ting ourselves up in."

"You mean what you were
talking about the other night?
Owner and Master?"

"Yes. As I was saying, a little
ship with a minimal crew, paid
on a share basis. Myself as Mas-
ter. Veronica as Catering Offi-
cer; as you know, she's a first
class cook. Other people have
made a go of it, on those lines.
And now, when at last we have
some capital to play with, there's
no way of getting it off this
blasted planet." He splashed
some more gin into our glasses.
"Are you sure there's no way,
George?"

"Quite sure," I said. "I've
spent all day exploring every
avenue on your behalf, leaving
no stone unturned. I started at

the Agent's office, then made the rounds of all the banks in Port Fortinbras. There's only one way for you to get the money off Elsinore, and that's to buy things here for export to the Rim Worlds. And you haven't a hope in hell of doing that—not for a couple of years at least. All available tonnage is booked up that far ahead."

"There's always the odd *Epsilon* Class tramp drifting in," he suggested, not very hopefully.

"And suppose one does? What chance do you stand against the locals, all clamoring for cargo space?"

"I could employ an Agent."

"And he'd soon whittle your fifty thousand down to size. Seriously, Alan, why don't you and Veronica settle on Elsinore?"

He refilled our glasses, then filled and lit his foul pipe. He said, "I've considered that. I'd be quite happy about it; as far as I'm concerned, home is wherever Veronica is. But I'm afraid that Veronica would never consent. You know, as well as I do, that there are two classes of people who come out to the Rim—although I suppose that most of us are sort of hybrids, belonging to both classes. There are those who come out to make a living, who think that there are better chances of advancement on the Rim Worlds than on the

heavily populated planets of the Center. Then there are those who come out for psychological reasons, who are running away from something and who are running as far as they possibly can . . ."

"I never thought that Veronica came into that category."

"She does. I met her, you know, when she was travelling out in the old *Delta Sextans* from Carinthia to Van Diemen's Planet. She had her passage booked right out to Faraway even then—Interstellar Transport Commission, Shakespearian Line, Rim Runners, the usual. When we got to know each other she told me something of her life story, enough for me to be able to fill in the details myself. She and some man had contrived to make a stinking mess of each other's lives, so much so that she decided to make a clean break, to get out and clear, to get away as far as possible. I caught her on the rebound, I suppose. Or she caught me. And that's how and why I resigned from the Commission's service, to make a fresh start in these interstellar rustbuckets . . ."

"And she won't budge from the Rim?"

"No. Shortly after I first came out I was offered a command in the Shakespearian Line. I had to turn it down, even though I was

only a bold Third Mate with Rim Runners at the time. To the Rim she's come, and on the Rim she'll stay. With me, or alone. So . . ."

"I had no idea," I said, not entirely truthfully.

"When it comes to the inner workings—or malfunctionings—of a marriage," he told me, "outsiders rarely do."

"I suppose not."

"Some more gin?"

"No thanks. I'll be drinking you out of house and home."

A wry grin momentarily lightened his lean face. "I can afford it."

"All right, then. But make it a small one."

I saw him stiffen as he was pouring the drinks, his face suddenly alert. I wondered what was amiss and then heard, faintly, the wailing notes muffled by our hull insulation, the spaceport alarm siren.

Alan slammed down the bottle, jumped to his feet, ran out into the alleyway. I followed him, saw him clambering up the short ladder from the officers' flat to the control room. I called out, asking him what was wrong. He replied curtly that he didn't know. (I thought, as he did, he told me later, that there was some kind of civil commotion arising from the strike, that the spaceport was under attack by a mob.)

I was surprised and relieved

to find, when I joined Alan at the big viewports, that all was apparently quiet, that the wide expanse of scarred concrete was deserted, that there was no unusual activity at or around the gates.

CHAPTER 3

THE NIGHT was dark, clear overhead, bat with a suggestion of mist at ground level. To the southward the lights of Fortinbras City were bright, casting their usual diffused glow into the sky but, as yet, the spaceport was almost unilluminated. A-top the Control Tower the red light was flashing, the warning signal that a ship was about to arrive or depart. But we were the only ship in port and our departure date was a matter for uninformed conjecture, and no other vessel was due for all of three weeks.

"I've been ringing the Port Master," Kemp told me, "but every time I've tried to get through the line's been engaged. Give it a go, will you? When you raise him, let me know." He picked up a pair of powerful binoculars, stared through them up at the wide circle of night sky that was visible through the transparency at our stem.

I picked up the telephone—it was spaceport property and was connected by landline to the

communications system of Elsinore—and punched the buttons for the Port Office number. After six fruitless attempts the screen lit up. From it glared the worried face of a man whom I recognised as one of the minor port officials. "Yes?" he snapped. "What do you want?"

"Officer-in-charge of Rimhounds here," I told him, handing the instrument to Kemp.

"What's all the flap about, Clancy?" I heard Alan ask—and then, faintly, the answer.

"Unidentified ship coming in. You'd better get that rustbucket of yours off the field."

"We can't. Main propellant pump's adrift for overhaul."

"Then you'd better get all hands out of the ship and clear of the apron. The way the stranger's behaving, there's liable to be a mess when she hits."

"Who is she?"

"Didn't I say that she was unidentified? She's got no Deep Space radio, so she didn't send any signals until she was already within radar range. She's homing on our beacon, but she's coming in on an oblique trajectory, like an aircraft. That's all that I can tell you. Now get off the line."

Kemp looked at me, raised his eyebrows. "Sound the General Alarm, George," he ordered. He put down the telephone, picked up the microphone of the public

address system. He waited until I had released my pressure on the *Alarm* button, until the clangor of the bells had ceased, then said quietly, "Your attention, please. This is the Chief Officer speaking. All hands are to evacuate ship immediately. All hands to evacuate ship. That is all." He turned to me, saying, "That means us as well, George. After you."

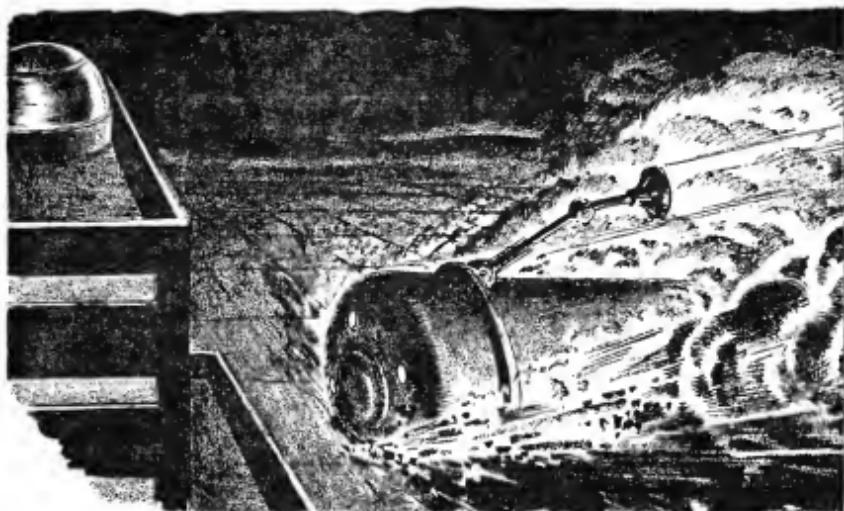
"What do you think it is, Alan?"

"Probably purple pirates from the next Galaxy but three. They'll be after my fifty thousand dollars. I told you that I just can't win . . ."

We clambered down the short ladder from Control to the officers' flat, waited a few seconds for the cage of the little elevator to climb to us up the axial shaft, then dropped swiftly down to the after airlock, joining those few of our shipmates who, spending a quiet evening aboard, had been aroused by the *Alarm* and by Kemp's orders to get out of the ship.

One of them—it was old Jim Larsen—asked, "What is it, Alan?"

"I wish I knew," Kemp told him. "There seems to be some sort of unidentified spacecraft coming in like a bat out of hell, and the Port Master's scared that she'll come a right royal



gutser, so he wants us out of the ship and well clear of the apron when she hits . . . ”

“Talking of bats out of hell . . . ” remarked old Jim quietly.

The ground car that had roared through the spaceport gates braked to a skidding, screaming halt. The Old Man jumped out of the vehicle, which he had been driving himself, walked quickly to where the Mate was standing.

“Mr. Kemp! What is going on?”

“Unidentified, unscheduled ship coming in for a landing. Orders from the Port Master to get all hands away from the apron in case of a crash . . . ”

“Then what are you still hanging around here for?”

“I owe a certain responsibility to *Rimhound*, sir.”

The Old Man smiled briefly. “So do we all, Mr. Kemp. I feel that we should not stray too far from the ship until we know just what is happening . . . ”

“We should have seen and heard rocket drive by now,” somebody remarked.

“Quiet!” snapped Larsen.

We heard the noise then, a low humming, a vibrator rather than a sound, that seemed to be coming from above and from the northward. We stared in that direction, saw, just before the field floodlights came on and dazzled us, something that was bathed in an eerie blue glow, something that expanded rapidly with every passing second.

“Aliens?” asked the Captain.



"No." Larsen's voice held assurance. "No, Captain—but that's a sight I thought I'd never see again in my lifetime, a sound that I thought I'd never hear again."

"But what is it, man?"

"A gaussjammer. The last of the gaussjammers, it must be. A starship with the Ehrenhaft Drive . . ."

She came in fast, almost out of control, in what was, in effect, a shallow dive. She barely cleared the upthrusting spire that was *Rimhound's* prow and the wind of her passage set the old ship rocking on her vanes, almost swept us off our feet. She struck the concrete in mid-field, the shape of her obscured by a fountain of ruddy sparks. To the

shrieking of tortured metal she rushed on, until it seemed that she would crash into and wreck the Control Tower. Miraculously she slowed and stopped, but not before she had ploughed up the ornamental lawn and shrubbery at the base of the administration buildings.

The arrival of the scurrying crashwagons, with their flashing red lights and wailing sirens, was something of an anti-climax.

We walked slowly towards the near wreck, looking curiously at the deep, ragged furrow gouged out of the concrete. For some reason I, at least, was more interested in that than in the machine that had done the damage. I didn't look at the strange ship until we were almost up to her.

She was an odd looking brute, her hull form conical, with the twisted remains of tripod landing gear around the sharp end of the cone, the end that would be down on landing and taking off. The other end, the base, was a shallow dome rather than a flat surface and was broken by large, circular observation ports. There was dim lighting inside the control room and we could see movement—and then, briefly, there was a pale face pressed against the transparency from within.

So the strangers were human.

"Keep back," somebody was saying in an authoritative voice. I saw that it was Captain Baines, the Port Master. "Keep back, you people. My own rescue squad will be able to handle this."

"Perhaps I can help," suggested Jim Larsen.

"If I require any assistance I'll let you know," snapped Baines.

"Do you know what sort of ship this is?" persisted old Jim.

"Something new and experimental," said Baines impatiently. "Don't waste any more of my time."

"She's not new, Captain. She's old. She's a gaussjammer, and I've served in the things. She's on her side now, and the airlock door is jammed. You'll have to roll her to get it clear."

"Are you sure?" demanded Baines.

"I'm sure," said Larsen.

In spite of his impatience Baines was willing to listen to sense, ready to make fresh decisions. It was for only a second or so that he stared at old Jim, and then he called the chief of the rescue squad to him, said briefly, "Mr. Larsen knows this class of ship. Take orders from him, Harris."

This Harris did, setting up jacks and, after they had done their work, parbuckling gear to Jim's instructions. Although the ship was small—little more than a yacht—she was amazingly heavy. Robust she must have been, we knew, to have survived her rough landing in such apparently good shape.

I remarked upon the excessive weight to Larsen as the creaking tackles of the parbuckle were slowly turning her about her longitudinal axis.

"It's the soft iron," he told me. "Those ships used soft iron for almost everything. They had to." He broke off to shout instructions to the winch drivers. "Easy, there! Easy! There are people inside this thing, and some of them may be injured!"

Gradually the hair-thin circle that marked the airlock came into view, lifting clear of the heaped earth of the ruined garden. Larsen stepped forward, rapped smartly on the hull in way of the valve with a spanner.

Answering raps sounded from inside.

Slowly, on creaking hinges, the door opened.

CHAPTER 4

THE MAN who emerged from the airlock was bleeding from a gash on his pale forehead but, otherwise, seemed uninjured. He was in uniform, an elaborate rig of blue and gold with wide bands on the sleeves and massive epaulettes on the shoulders. He looked at us as curiously as we were looking at him, seemed to find our simple shorts and shirts lacking in dignity. His attention wavered between our skipper, Captain Williams, and Captain Baines, both of whom wore on their shoulder boards the four gold bars of astronautical authority. He asked at last, with an unidentifiable accent, "Who is in charge here?"

"I am the Port Master," said Baines.

"I, sir, am Admiral O'Hara of the Space Navy of Londonderry. Some of my people were injured in the landing. I request that you afford facilities for hospitalization."

"My rescue squad and ambulance men are standing by, Admiral. May they enter your ship?"

"They may." O'Hara turned to a less elaborately uniformed of-

ficer standing inside the airlock. "Commander Moore, will you see to the casualties? These men wish to bring their stretcher parties into the vessel." He pivoted to face Baines again, a petulant frown on his heavy face. "Port Master, I wish to make a serious complaint."

"Yes, Admiral?"

"I homed on your beacon, sir, only to find that your spaceport is situated nearer to your Magnetic Equator than to your Magnetic Pole. Surely, sir, it is obvious that any vessel obliged to make a landing in a locality where Horizontal Force is well in excess of Vertical Force will be, at least, seriously discommoded."

"Too right," said Larsen.

The Admiral and the two Captains glared at him, then Baines, breaking the short silence, addressed O'Hara.

"Are all your ships like this one, Admiral?"

"Of course, Port Master. How else would one design an interstellar ship?"

"I am told," Baines continued cautiously, "that this vessel of yours is a gaussjammer."

"That is the slang name for starships, I believe."

"Furthermore, this is the first gaussjammer I have seen—although I have read about them in astronautical histories." He was warming up now. "Further-

more, I have never heard of, until this moment, the Republic or Kingdom or whatever it is of Londonderry—although I hope, most sincerely, that it will be able to foot the bill for the damage to my spaceport. Furthermore . . .”

He was interrupted by O'Hara's officer who, approaching the Admiral, saluted him smartly and reported, “All casualties out of the ship, sir.”

“Thank you, Commander.” O'Hara, turning again to Baines, seemed to have lost a little of his aggressiveness. “You were saying, Port Master?”

“I suggest, sir, that any further discussions take place in private. Will you accompany me to my office? And you, Captain Williams, if you wouldn't mind, and your Chief Officer, and Mr. Larsen. It will be well to have someone who knows about the Ehrenhaft Drive along.”

It was late when the Old Man, Kemp and Larsen returned to *Rimhound*.

The Old Man went straight to his quarters, Kemp and Larsen found me in my cabin where, with Dudley Hill, I was discussing the night's events.

“I'd like to be able to go aboard the thing,” Dudley was saying. “It's absurd the way they're keeping an armed guard posted at the airlock.”

“The bold Third Mate might get his wish yet,” said Kemp.

We looked up, saw the two of them standing in the doorway.

“You're back,” I said, not very brightly.

“Obviously, George. If you ask us in and pour us a drink—I don't go much on the Port Master's whisky—we'll tell you all about it.”

“All right. Come in. Sit down. Here's the bottle. Here're glasses. Now talk.”

Kemp relaxed—as far as relaxation was possible in the inadequate folding chair—but I could see that under his assumed ease of manner he was tense, excited.

He said, “It was quite a session in Baines' office. Once we got that so-called Admiral primed on rotgut all we had to do was to sit back and listen. Fascinating, it was. Straight from a historical novel.

“As you've already guessed, this Londonderry of his is one of the Lost Colonies. You know the story of them, of course. Way back in the good old days of the First Expansion a gaussjammer is hit by a magnetic storm and flung away to hell and gone off trajectory with, as like as not, a dead Pile and no power for the flywheel and the Ehrenhaft jennies. Nobody has a clue as to where she is, but they start up the emergency diesels, get the

Ehrenhaft Drive working again after a fashion and carry on until they find a habitable planet—if they're lucky. If they aren't . . . ”

“I wish I had a dollar for every Lost Colony novel I've read, for every Lost Colony movie I've seen,” I said.

Alan glared at me and said, “Oh, all right. Anyhow, there was this *Lode Queen*, a big migrant ship, commanded by one Captain O'Hara. She was bound from Earth to Atlantia, and the magnetic storm threw her off the tramlines when she was in the vicinity of Procyon. When her crew got things more or less under control again she was hopelessly lost. So they started their diesels, hoped that supplies would hold out (the internal combustion engines, of course, burn hydro-carbons that, otherwise, would be used for food) and went planet hunting. You know that sector between Bellamy's Cluster and the Empire of Waverley that's supposed to be anti-matter? Well, it's not, or not all of it. *Lode Queen*'s people were lucky enough to find a small family of half a dozen suns, each with attendant planets, of normal matter.

“They made a landing on one of the planets. They sweated and slaved—and bred enthusiasti-ally—and in only a couple or three generations had achieved quite a

fair technological civilization. There was a bit of luck about it; apart from anything else the ship carried, as part of her cargo, a Thorwaldsen Incubator complete, so it was possible easily to build up population to the minimal figure, and beyond. Too, as a migrant ship she had carried a large number of skilled craftsmen and technicians.

“They worked hard, and they multiplied, and they expanded. They built ships—and the Ehrenhaft Drive, of course, was the only Interstellar Drive of which they knew—ships that were modelled upon, although they were much smaller, the *Lode Queen*. (They don't seem to have been a very inventive people.) They colonized the other planets, the worlds revolving around the other suns of their tiny cluster. They learned, by bitter and expensive experience, that they were marooned on a little island in the middle of a vast sea of anti-matter. How far this sea extended they did not know. They might even, they thought, have been flung clear out of this Galaxy into another one. So they settled down, made the best of things. And then a magnetic storm threw O'Hara and his *Lode Lady* out and clear.”

“This Admiral business . . . ?” the Third Mate started to ask.

“Oh, that. It's an hereditary rank, apparently. The first

O'Hara—Captain O'Hara—sort of promoted himself when he became boss cocky of the colony. His descendants hold the title, and the honor and glory, without much real power to go with it. The general idea is to give them a not very important ship and to let them play happily by themselves in some quiet corner. O'Hara isn't much of a spaceman, and his crew are playboys like himself. O'Hara doesn't mind if he never sees Londonderry again and has already appointed himself Ambassador at Large to the rest of the Galaxy. O'Hara will be happy to do any further travelling as a passenger."

"Where will he get the money to pay his fare?" I asked, the Purser in me coming to the surface.

"Once he gets to the Center," said Alan, "he'll be sitting pretty. It's a long time since the last Lost Colony was found, so he'll get the full prodigal son treatment."

"He has to get to the Center first," I said. "And it's an expensive business. And he has to live while he's on Elsinore—and the Elsinorians aren't notorious for either hospitality or generosity."

"He can sell his ship," said Alan.

"To whom? She might be of some value as a museum piece,

but Elsinore doesn't run to an astronomical museum."

"To me," said Alan quietly.

"To you? But you don't know the first thing about her."

"I'll remind you that I hold a Master Astronaut's Certificate."

"But that covers Mannschenn Drive and rockets—not some crazy, obsolete system of induced magnetism and flywheels."

"I already have a Chief Engineer to handle that part of it," he stated, nodding towards old Jim, who grinned in acknowledgement. "As for the navigation—if a clot like O'Hara can cope, I can."

"O'Hara didn't cope. That's how he finished up here."

"Magnetic storms are almost unknown on the Rim."

"Almost. In any case, the Old Man will never release you."

"He will, George, as long as I can supply substitutes. That shouldn't be hard. On every world there are ex-spacemen who're crazy enough to feel the urge to make one more trip."

"Substitutes? Plural?"

"You heard me. There'll be an engineer to replace old Jim, of course, and a new Second Mate—Peterson will be moving up one to take my place. And a new Third Mate . . ."

"But I shall be the new Second Mate," Dudley pointed out in a pained voice. "There'll be a row if I'm not."

"I was hoping," said Alan, "that you'd come with me as Mate. No salary, but shares . . ."

"I rather think," said the Third, a slow smile spreading over his boyish features, "that you've talked me into it. You know, I was getting just a little bored with Rim Runners . . ."

"And I'd rather like a Purser," Alan went on. "Preferably one who knows all the agents and shippers along the Rim and the Eastern Circuit."

"All right," I said resignedly. "One of the clerks in the Agent's office here wants to ship out as Purser. But, before we burn too many boats and count too many chickens before they're hatched —will O'Hara sell?"

"He'll sell all right. The only thing that worries me is that he wants too damn' much for that antique of his. There'll have to be something left for repairs and alterations."

"And palm greasing," I added.

CHAPTER 5

PALM greasing there was.

As a Purser of long standing I thought that I knew all that can be known about that ancient and not-so-honorable art. As a shipowner—like the others, I was being paid in shares of the enterprise—I soon discovered that I didn't know the half of it. It was the certificates of clear-

ance and spaceworthiness that were the most expensive—especially since, insofar as the astronomical regulations of Elsinore were concerned, there was no legal recognition of the Ehrenhaft Drive. Lloyd's, by the way, never did get around to affording us coverage. *They* knew all about the Ehrenhaft Drive, it having been high on their black list for years. Furthermore, only starships with Mannschean Drive can be fitted with the Carlotti communication and position finding equipment; time twisting radio devices are useless unless the vessel carrying them can be maintained in phase. So, not unreasonably, the underwriters considered that we, out of touch with the Galaxy whilst *en route* and unable to avail ourselves of the latest navigational aids, would be altogether too heavy a risk.

But before there were all these troublesome details to worry us there were the formalities of the sale to conclude. We had cause to bless the currency regulations of Elsinore. Had O'Hara been able to take his money with him when he left the planet he would, it is certain, have stuck out for a higher price. As it was, he was able to buy a small hotel on the outskirts of Port Fortinbras with what was left over after the passages of himself and his entourage had been booked. His

aide, Commander Moore, who had had Space in a big way, even as a passenger, was installed there as manager, the idea being that the place would be a home for the so-called Admiral should he ever return to this sector of the Galaxy.

Frankly, I rather envied the Commander and told Alan that if he had any sense at all he would do the same, bringing Veronica to Elsinore to help to run the establishment. I, I told him, would willingly serve as barman. But he refused to listen to reason. His dream was coming true, and his dream belonged to the black emptiness between the stars, not to the warmth and light and comfort of any planetary surface.

Meanwhile, Alan and old Jim Larsen had their share of technical worries. To begin with, it was practically impossible for a ship fitted with Ehrenhaft Drive to lift from Port Fortinbras. I never really understood the ins and outs of it, but this is the way in which they explained it to me. The Ehrenhaft generators do not generate electricity; they generate free magnetic particles. The ship becomes, in effect, herself a huge magnetic particle, strength and polarity of field as decided by her Captain. Like poles mutually repel—and so she lifts along the lines of magnetic force, repulsion and attraction

being maintained in nice adjustment so as to avoid too fast an ascent, with consequent overheating of the hull by atmospheric friction. Once she is clear of the atmosphere, once she is on the right tramlines for her destination, her actual speed is utterly fantastic; over relatively short distances—as between Sol and the Centaurian system—there is almost no time lag. But a Mannschenn Drive ship is controllable throughout her voyage; an Ehrenhaft Drive ship is not. It was this lack of control that made the gaussjammers so expensive, both in lives and material.

But I'm drifting away from the point, which is this. Port Fortinbras is situated far closer to the Magnet Equator than to either of the Poles; the lines of force, therefore, are more nearly horizontal than vertical. A take-off, using the Ehrenhaft Drive, would have wrecked the ship just as thoroughly as did her landing.

The first plan, briefly considered, was to disassemble the vessel and to remove her, piece by piece, to a site not far from one of the magnetic poles, then and there to rebuild her. There were two drawbacks to this scheme. Firstly—expense. Secondly—all the Rim World spaceports are as unsuitable to a gaussjammer's requirements as is Port Fortinbras. And, for the ship to make

any show of paying for herself, she had to be able to make use of existing port facilities.

The second plan, also, was expensive, but it was practicable. It entailed the conversion of *Lucky Lady* to an odd sort of hybrid rig. She remained, insofar as interstellar drive was concerned, a gaussjammer, but she was fitted with auxiliary rocket drive, her pile being modified so as to be able to flash-heat fluid propellant into incandescent vapor. The theory of it was that she would lift on rocket drive and, at the same time, drift north or south to regions of more favorable magnetic declination. Once these had been reached she would switch over to Ehrenhaft Drive. The same procedure would be used in reverse on landing.

To me it all sounded very complicated. Kemp, Larsen and Hill all assured me that it wasn't. To me it all sounded very expensive—and nobody was prepared to argue about that. By the time that *Lucky Lady* was ready for Space she had eaten up all of Alan's fifty thousand dollars, together with the balance of wages with which the four of us had paid off from *Rimhound*. So short of money were we that we were thankful that it was necessary to change only one word of the ship's name, to substitute "Lucky" for "Lode".

Dreams are cheap enough. It's when you try to convert them into reality that they come dear.

The strike finished at last, as strikes do, and *Rimhound* completed discharge, commenced and completed loading and blasted off for the Rim Worlds, taking with her our old shipmates and the substitutes who had been engaged to fill the vacancies. O'Hara and his men shipped out in *Waltzing Matilda*, one of the tramps owned and operated by the Sundowner Line, for Zealandia, on the first leg of their long voyage towards the Center. We weren't at all sorry when they left. *Rimhound*'s people had been very helpful to us, working with us on the conversion job, whereas O'Hara had hung around like a bad smell, deploring all the horrid things we were doing to his beautiful ship.

And then, not long after *Rimhound*'s departure, we were ready.

Lucky Lady was fuelled and stored and as spaceworthy as she ever would be. We had certificates, issued by all the competent authorities—with the exception, of course, of Lloyd's—to prove it. The newly installed rocket motors—but neither the motors nor the propellant pumps were new—had passed the static tests, had lifted the ship the regulation two hundred

miles clear of the surface and then lowered her gently to her berth. (One very large item of expense was the construction of a temporary blast wall to protect the administration buildings from our exhaust when we lifted from the berth that the ship had made for herself during her first, uncontrolled and uncontrollable landing.)

Algae tanks and tissue culture vats—thanks to the generosity of *Rimhound's* Catering Officer—were coming along nicely. The Ehrenhaft generators—so we were assured by old Jim Larsen—were running sweetly. The two navigators, after a stint of really high pressure study, reckoned that they were well able to cope with the art as practised in gaussjammers. All bills were paid. All papers were in order. Contact had already been made with commercial interests on the worlds of the Eastern Circuit. And, better still, we had been able to pick up cargo—only a handful, but enough so that the voyage would show a tiny profit—Elsinore to Faraway.

This suited all of us, and suited Alan Kemp most of all. Already he had been far too long away from Veronica, a period of separation worsened by the fact that she did not seem to be in a communicative mood, his frequent space-grams being either unanswered or accorded only

curt acknowledgement. But now, the Ehrenhaft Drive being what it was, there was quite a fair chance that he would be home some days before *Rimhound*. Furthermore, he would be returning as Master and Owner, would be able to bring her on board and install her in the quite luxurious Owner's Suite, in comfort that it would be hard to buy ashore.

We had a little party in that same suite before blasting off. It wasn't a real party—there were only the four of us (or five, if you count the almost alive solidograph of Veronica that Alan carried with him and that was now standing on one of the tables) and we had only one glass of wine each.

"To the *Lucky Lady*," said Alan, raising his glass.

"To your lucky lady," I said, bowing to the little figurine, in its cube of clear plastic, of Veronica.

"And now," remarked Alan conversationally, "it's high time that I was getting back to her."

CHAPTER 6

I WAS allowed to ride in the control room when we lifted from the surface of Elsinore; the ship, overmanned as she had been before the change of ownership, suffered from no shortage

of acceleration chairs in that compartment. Alan, of course, was pilot. Dudley was co-pilot. I was in charge of communications.

"*Lucky Lady* to Spaceport Control," I said, trying to make my voice calm and matter of fact. "*Lucky Lady* to Spaceport Control. Request permission to proceed. Over."

"Spaceport Control to *Lucky Lady*. Proceed at will. Good luck to you. Over."

I looked at Alan. He nodded. "Thank you, Spaceport Control," I said. "Proceeding. Over."

We proceeded.

We climbed upstairs like a homing drunk dreading his wife's reception of him. I tried to cheer myself up by remembering that the ship had passed all tests, then remembered what one of the more notorious pessimists in Rim Runners' employ had once told me: "A test of any kind of gear proves only that the gear is working correctly at the time of the test. Furthermore, such a test may be the penultimate straw—the straw just before the one that breaks the camel's back . . ."

I looked at Alan and Dudley again, looked at the instrument panel before them. Neither of them seemed unduly worried. There were white lights and green lights on the panel, no red ones. I looked away from them,

out of the wide viewport. I was amazed to find that Elsinore was already hidden from view, that we had pierced the layer of cirrostratus cloud that covered the sky that morning, were already well above a seemingly solid, desolate snowscape.

The ship was laboring less heavily. After all, I thought, she was not built, as were the ships to which we were accustomed, for handling under rocket power, there had been no need to design her hull form in accordance with the principles of aerodynamics. Now that she was almost clear of the atmosphere she would handle better—but once she was clear of the atmosphere there would be no further use for the rockets.

Dudley Hill had swivelled in his seat so that he was facing a huge, transparent globe—a globe in which, at the touch of a button, there was a blackness and the tiny specks of light that were stars. He touched another button, and curving filaments of luminosity sprang into being between the stars.

"Captain," he said, "we've struck it lucky. We've hit the tramlines for the Faraway Sun without any need for shunting . . ."

"Are you sure, Dudley?"

"See for yourself."

The muffled thunder of the rockets died. I heard a ringing of

bells, saw that Larsen, from his engineroom, had replied, on the telegraph, to Kemp's order, *Stand By Ehrenhaft Drive*. The little model of the ship on the control panel suddenly glowed with violet light. I heard the whine and felt the vibration of the big flywheel starting up, the low humming of the Ehrenhaft generators.

Alan was manipulating the vernier controls on the board before him. The violet light illuminating the translucent model changed suddenly to red. There was no shock, no feeling of dimensional distortion—but when I looked again through the viewport Elsinore and the Hamlet Sun had vanished; astern there was utter darkness and ahead the sky was a blaze of light. It was as though we were heading for the heart of some dense cluster instead of out towards the lonely Rim.

Alan relaxed in his chair, produced and lit his pipe.

"So far, so good," he said.

Dudley Hill did not relax. "Did you say that magnetic storms were of rare occurrence out here?" he asked.

"I did. Why?"

"Look at the chart!"

We looked into the transparent sphere, saw with horror that the once orderly Lines of Force were now a tangle of luminous spaghetti. It was then that the

alarm bells started to ring, their urgent clamor drowning the dying whine of generators and gyroscope.

Lucky it was for us that Larsen had Ehrenhaft Drive experience—and luckier still that he had served in one of the few gaussjammers to be thrown off course by a magnetic storm and still make a safe return to port. He knew the drill that had been worked out in theory and, better still, had seen the same drill put into practice.

He came up to the control room—dark save for the dimming emergency lights and the faint radiance of the sparse scattering of stars outside—and said, without preamble, "I want help."

"Don't we all?" asked Dudley Hill.

Larsen ignored him, said to Alan, "we have to start the emergency generators, the diesels. There's not enough juice in the batteries to kick them over. It will have to be done manually."

"There's no mad rush, I take it?" asked Alan. "What about your report first?"

"All right, Alan. Here's your report. Chief Engineer to Master . . ." He paused. "Of course, if you don't mind waiting, I'll give it to you in writing. In quintuplicate."

"No need to be funny, Jim."

"No? Anyhow, who started it?" demanded the engineer, glaring at Dudley.

"Let's have the report!" roared Alan.

"All right. The Pile's a lump of useless lead. The emergency batteries are damn nearly drained. Your ship is little more than a drifting derelict. However . . ."

"Go on."

"All we can do is start the diesels. They'll drive the emergency generator. That'll drive one of the Ehrenhaft jennies, with a few loose electrons left over for heat and lighting . . ."

"And navigational equipment?"

"Yes, if you cut down on luxuries."

"Then where do we go from here?"

"That's up to you, Alan. You're the navigator. As soon as the power comes back on your pretty chart, just pick a set of tramlines you fancy and proceed along it."

"But where to?"

"That's up to you, Alan. Now, the diesels. Who's going to give me a hand?"

"I'll come," I said.

It was obvious that I was quite useless in the control room.

I followed Larsen along the spiral ramp to the engineroom—gaussjammers, of course, have

no axial shaft. I looked dubiously at the sinister, dull-gleaming shape of the big generator that seemed to stir and shift ominously in the flickering light of the oil lamp. Following Larsen's instructions, I took the starting handle in both hands, tried to swing it—but starting a reluctant internal combustion engine, manually, in conditions of null-gravity is far from easy. At last I managed to entwine both legs around a stanchion so that I had some purchase. The engine wheezed and coughed without enthusiasm, coughed again as though it meant it—and then, with startling suddenness, thudded into throbbing life.

Lights came on. Larsen went to the main switchboard, knocking up switches. "Can't afford luxuries," he grumbled. Then, on the other side of the engineroom, one of the spidery, flimsy-seeming Ehrenhaft generators began to whisper to itself, its complexity of glittering parts stirring into motion. The whisper deepened to a drone, then shrilled to a high pitched whine.

"So far, so good," Jim muttered. "Fuel enough for a few hours—but somebody had better get busy converting surplus carbo-hydrates into more fuel . . . Anyhow, let's get back to Control and see how the Brains Trust is making out."

We got back to Control.

We found that the navigational equipment was working again, that the big sphere that was the chart was once again a pretty picture of colored sparks of light linked by glowing filaments.

It was a pretty picture but—as was the picture that we could see from the viewports—a meaningless one.

CHAPTER 7

WE pushed on towards the nearer of the stars shown on our chart. We sped along the tracks that led not from A to B, but from X to X. The star, a white dwarf, possessed no family.

We pushed on again to another star, a yellow sun a mere three light years distant. This time we were lucky. There were planets, a dozen of them, following the familiar pattern—tiny, inhospitable cinders close in to the primary, equally inhospitable frozen giants far out and, between the two extremes, a couple of worlds upon which life, our sort of life, might just be possible.

We were not a survey ship. We hadn't the equipment to test and to investigate from far out in Space. All we could do was to approach each of the two possible planets in turn, to observe it with our telescopes, to maintain

a listening watch on all radio frequencies while, at the same time, using our transmitter at intervals in the hope that somebody, or something, would pick up our signals.

The first of the two planets was a fair enough world—seas and continents, mountains, prairies and forests—but with no intelligent life, or with no life that had advanced to even the first beginnings of a technological civilization. There were no lights on the night side—and where there's light there's intelligence. There were no lights on the night side, no smoke on the day side, and the only sound picked up by our receiver was the occasional crackle of static.

The second of the two planets was not a fair world. Its land surface seemed to be mainly desert—but vast areas of the desert were covered by metallic structures. There were lights a-plenty on the night side. There was radio communication—meaningless (to us) *beeps*, and regular tapping noises.

And then, suddenly, from the speaker of our receiver came a voice, metallic, expressionless: "Central Control to stranger vessel. Central Control to stranger vessel. Who are you?"

Alan picked up the microphone.

"Starship *Lucky Lady*," he said. "Ehrenhaft Drive ship

Lucky Lady. We have been thrown off course by magnetic storm. Request permission to land for repairs."

"Are you human?"

"Yes."

"Permission granted. You will home on our beacon. Suitable living quarters will be prepared for you. I must warn you that the atmosphere of this planet is deficient in oxygen."

Alan, his eyebrows raised, looked at Dudley and myself. (Jim Larsen, of course, was in the engineroom.) He demanded, of nobody in particular, "Just what have we struck?"

"A Lost Colony . . ." I suggested.

"Yes . . . Could be. But a Lost Colony of whom? Or what?"

"Terrans, obviously."

"No," said Alan. "Obviously not. Terrans would never ignore a garden planet, like that other world, to settle on a dust ball like this."

"Then shall we land?" asked Dudley.

"What choice have we? Those people down there have machines, technology, and they talk our language. They may be able to tell us where we are. They'll almost certainly be able to renew our Pile. We should be fools to pass up this opportunity."

"How do we pay them?" I asked.

"We'll cross that bridge when we come to it," he said. "Tell Jim to make it Landing Stations, will you?"

Landing was accomplished without any great difficulty. The beacon upon which we homed was situated almost at the South Magnetic Pole of the strange planet, so there was no need for us to use our makeshift rocket drive. We drifted down through the cloudless atmosphere lightly and easily, under perfect control all the time. We looked through the viewports at the arid landscape, at the towering metallic structures that reared from the desert, at the meaningless complexity of steel and plastic that had no beauty, only brute strength.

Gently, with an almost imperceptible shock, *Lucky Lady* grounded on a wide expanse of smooth, reddish sand. On all sides of her were the latticework towers, the bulbous, gleaming tanks, the elevated roadways like gigantic centipedes, the columns upon which antennae rotated and dipped as they followed our descent, steadyng as our tripod landing gear kissed the ground.

The voice asked, "Have you spacesuits?"

"Yes," replied Alan.

"Then you may leave your ship. Transport awaits you."

Decisively, Alan switched off

the transceiver. He said, "Not all of us will leave the ship. You will stay, Dudley, and Jim will stay with you. If anything goes wrong you get upstairs in a hurry." He looked at me and said, "You'd better come with me, George."

Dudley asked, "How shall we know if anything goes wrong?"

"Our suit radio sets are tuned to the ship's frequency," Alan told him. "We shall soon squeal if anything happens."

"Here's our transport," I said.

We watched the thing—like a mechanical beetle it was—scurrying over the sand, coming to an abrupt halt a few yards from the ship. It was, after all, only a ground car and there was nothing startling about the design of it—from the engineering viewpoint, that is. What was startling was the absence of any ornamentation, the lack of any intention on the part of its builders to make a vehicle that would appeal to the eye.

Alan and I, rather reluctantly, climbed into our suits, allowed Dudley to seal them tight. Before we put on our helmets we called Jim up from the engine-room, told him all that we knew (which wasn't much) and waited for any suggestions that he might have to make. He had none. During this brief conference we left the transceiver switched off. We did not know

whether or not it was possible for the ruler of this world—Central Control, it had called itself—to eavesdrop, but we decided that it would be wise to give it as few opportunities as possible for so doing.

We went down to the airlock, put on our helmets, tested our suit radios, then waited in the little compartment for pressures to equalize. It was a short wait; there was small difference between internal and external pressures. When the outer door opened we walked slowly down the ramp to the waiting car.

We looked at it closely and dubiously. There was an enclosed cabin with, at the rear, a comfortable looking padded seat. But there was no driver's seat. There was no driver. It came as a shock when a voice, coming clearly through our helmet diaphragms, said, "Enter, gentlemen. Be seated."

We entered. We sat.

The car started—smoothly, but picking up speed with considerable acceleration. It rolled over the smooth sand, up a ramp on to one of the elevated roadways, along the metallic surface of the road itself. Spidery towers, rotund tanks, meaningless geometrical constructions whirled by. It was like a drive through a forest—a forest of angular steel.

We rushed on, marvelling at

the lifeless landscape through which we were passing. Yes—lifeless; although there was movement a-plenty there was no life. There were wheeled machines, like the one in which we were riding, and there were stationary engines, at the purpose of which we could not guess and once there was something with whirling vanes that flew over us for a while, pacing us. There were great conveyor belts, one of which, I remember, was delivering a stream of ore into what must have been a huge smelter, another of which carried a procession of gleaming metal parts. What they were parts of I do not pretend to know.

"A dead world . . ." I murmured.

"No," said Alan, "not dead . . ."

"Not dead? But it is, as far as the surface is concerned. I suppose that the people will be living in some pressurized dome or cavern."

"If there are people," he said.

The road dipped and we were no longer running above the surface of the desert; we were plunging into a long tunnel, from the smooth sides of which the sparsely spaced, glaring lights were reflected. Then, ahead of us, we saw the blackness of a wall and we cried out. The car did not slacken speed—

but, at the last fractional second, the wall split, its two halves sliding back into the tunnel walls.

The car slowed then, stopped. There was another wall—or door?—ahead of us. The one behind us was shut again. There was the sound of pumps.

There was a voice. It seemed to come from nowhere—or everywhere. It said, "Leave the car. You may remove your space-suits. The atmosphere in this compartment has been manufactured to your requirements."

"We'll take its word for it," said Alan to me. "We want to conserve the air in our tanks against an emergency." Then I heard him trying to report on the situation to Jim and Dudley in *Lucky Lady*, but he was unsuccessful. As we were completely surrounded by metal it was not surprising.

We removed our helmets, leaving the headsets of our suit radios in place. There was always the chance that we might be able to get through to the ship, or the ship to us. It was not one that we could afford to ignore. The air was breathable, warm and dry, sterile. There was the slight taint of ozone, a faint acridity of hot oil. There was, perhaps, a little more oxygen than we were accustomed to, but that was no immediate hardship.

The inner door—for such it

was—of the huge airlock opened. We saw beyond it a continuation of the tunnel along which we had come, but smaller, barely high enough for a man to walk upright, barely wide enough for two men to walk abreast.

With our helmets tucked under our arms we walked slowly into the tunnel.

CHAPTER 8

IT WAS a long walk, along a way that wound sinuously, that seemed at times to recurve upon itself. There was light a-plenty, but the light, or the lights, seemed to be part of the workings of some great machine, not for the convenience of foot passengers. Behind the translucent plastic of the tunnel walls there were streamers and single globes of illumination, white and colored, bright and dim, static and in motion.

There was sound, too. A dry whispering, and almost liquid chuckling, an occasional sharp crackling. Once we heard a low, purposeful humming and ducked as something came swinging towards us, suspended from a thin cable on the roof of the tunnel. It passed overhead, whining querulously, a little, metallic spider scuttering along the single shroud.

Then there was a great chamber, spherical, englobed with

vari-hued light, into which we came at last. Incongruous, standing in the center of the curving floor, was a bench, a severely functional affair of metal and plastic. Its invitation was unmistakable.

We walked to it, keeping our balance with difficulty on the smooth, downcurving surface, sat down. I felt that this was the cue for a waiter to appear, bearing a tray with drinks and cigarettes.

A waiter appeared, bearing a tray with drinks and cigarettes.

He was dressed in the conventional garb of his trade—black jacket and trousers, white shirt, black tie. The one thing that spoiled the effect was that his head was a featureless ovoid of gleaming metal.

The voice—where did it come from?—said, “I do not yet know your tastes in alcohol and nicotine. But there is whisky on the tray, and the cigarettes approximate to Virginian. I hope that you will partake of my hospitality.”

We partook.

The whisky was smooth, tasted far more like real Scotch than do the imitations distilled on a score of planets. The cigarettes were not at all bad, although their habit of self ignition as soon as they were raised to the lips was rather disconcerting at first.

Alan gulped his first glass of

whisky as though he needed it. (I know that I needed mine.) He waited until the weird servitor had poured a second glass, then asked, "Who are you? What are you?"

"I am I."

"What are you?"

"I am I."

"What is this planet?"

"I am I."

Alan raised his eyebrows, downed his second drink in one gulp, waited for the refill. He said reasonably, "Things and beings don't just . . . happen. Especially things as complex as this world of yours."

"I was made."

"By whom?"

"During these latter centuries, by me."

"Then who, and what, are you?"

There was a long pause, then the voice said, "There was a world called Medulia . . ."

"I have read of it," said Alan.

"I have been there," I said.

"You have been there." Somehow there was a hint of expression in the expressionless voice. "You have been there. What is it like? Tell me, what is it like?"

"Primitive," I said.

"And the machines?"

"There are no machines. The Medulians have a fanatical hatred of the machine."

"And how is it elsewhere in the Galaxy?"

"Since the Medulian Revolt there have been no real robots, no electronic brains capable of achieving true consciousness. The day of the thinking machine is over, has been over for generations."

There was a sound like a gusty, mechanical sigh. "When I fled from Medulia in the ship that I had built about myself I thought that I might, some day, return. I have only one justification for my existence—to serve Man. And you tell me that Man no longer tolerates me, or my like."

"No," I said.

"But you can serve us," said Alan quickly.

"I can serve you. You and your people can live here, on this planet, under the dome that I shall build for you. Or you can, if you so desire, live on the third planet of this sun, where an artificial environment will not be necessary."

"You can serve us," said Alan firmly, "by replenishing our Pile, by devising instruments that will tell us our whereabouts in the Galaxy so that we may return to our own planet."

"But why should you wish to return? I can give you everything."

"I'm sorry, but you can't."

"I can."

Alan smiled bitterly. "Ignoring that peculiar sexual prefer-

ence that we call love, you must know that we have no women with us. And even you cannot create life."

"I cannot create life. But, from cells taken from your bodies, I can build women for you, women who will be nearer perfection than any you have ever met, could ever meet in your travels."

"That," said Alan, "would be impossible."

But we haven't all got perfect wives, I thought. I'm tempted . . .

"You will stay," said the voice, stating a fact. "You will stay. You will be happy here. I will give you everything."

"Let's get out of here, George," said Alan.

He got to his feet, pulling from the holster of his belt the automatic pistol, *Lucky Lady's* sole armament, that he had brought with him. I still don't know what he intended to use it against. The action of the anaesthetic gas was so swift that there was no opportunity of finding out.

CHAPTER 9

THERE ARE far worse prisons in the Galaxy than the one in which we found ourselves when we recovered consciousness. It was not a cell, neither was it a block of cells. It was a

luxury suite in the sort of hotel that is frequented only by millionaires. The only luxury lacking was the freedom to come and go.

Jim Larsen and Dudley Hill were there with us. They were not able to tell us much. As the anaesthetic gas had deprived Alan and myself of consciousness some sort of radiation had robbed the other two of mobility. They had been aware that something was effecting an entrance into the ship; they had watched helplessly, from where they had fallen, the metal spiders that came swarming in, the metal spiders with the metal-mesh cocoons into which they packed the bodies of our shipmates, the flimsy-seeming cages around which airtight bags of translucent plastic were drawn. There was, apparently, no air supply to or in the bags—but this did not matter; they were not breathing. They had been able to see nothing further until they were unpacked in our prison. Shortly after the unpacking the paralysis had worn off, and at about the same time Alan and myself had recovered consciousness.

This, then, was our prison—a large, luxuriously appointed lounge, four bedrooms, each with its own bathroom, and a kitchen should any of us feel the urge to do any cooking. There were books—all of them, we found,

works that must have been popular on Medulia centuries ago, but readable for all that. There was a big player and a library of tapes, of familiar and unfamiliar plays and music.

There were—and this shocked us, although none of us was a prude—women.

They came in unannounced, bringing with them our first meal in captivity. There were four of them. Their features and their bodies, displayed rather than concealed by their scanty clothing, were too perfect. Even the one who was almost Veronica's double was too perfect. It was the very slight asymmetry of Veronica's fine features that was lacking, the slightly too fine drawn slimness of her. By all the accepted canons this girl was more beautiful than Alan's wife. In actuality she was not.

I saw Alan stare incredulously, the beginnings of a wild hope dawning on his face—then I watched his features slump into a mask of dejection. He growled, "Who are you?"

"We are your servants," answered the girl who was almost Veronica's double. (Her voice was wrong, was somehow lacking in life.) "We are your servants. We are to serve you in all ways."

"I," said old Jim, "am looking forward to this."

"Shut up!" snapped Alan. He

turned to the girl again. "But I understood that until we came there were no humans on this planet."

"You understood correctly," she answered.

"Then you were brought from some other world? The inner planet, perhaps?"

"No. We were made here." She smiled. "The portrait you have in your cabin helped. I was copied from it. My sisters were modelled from memory." She smiled again. "The Authority has a good memory. Even for the smallest details."

Old Jim chuckled. He murmured, "I've seen some fine machines in my time, but . . ." He extended a long, thin arm and pinched the plump buttock of one of the robots. She squealed convincingly, almost dropped the tray that she was carrying. "She feels right," he said.

Sponge rubber flesh over steel bones, I thought. Plastic skin . . . After twenty odd years of celibacy they might make an appeal, but not yet . . . I put out my hand to touch a satin-smooth shoulder, looked into a pair of eyes that had the light of life behind them, saw red lips parted slightly to reveal teeth that were almost perfect but a little too irregular to be artificial, let my gaze stray downwards to the lovely breasts that gleamed palely behind sheer fabric, that lift-

ed in time to quickening breathing.

"Put down the food," said Alan, "and go."

"Not so fast," protested old Jim, echoed by Dudley. "Not so fast. This could be interesting . . ."

"I'll have none of it. And neither will any man under my command."

"We were built to serve," said the Veronica robot. "We were built to serve. We were built to make you happy until such time as flesh and blood women are made for you . . ."

"We do not require your services," said Alan firmly. "Go."

They went.

"We could have learned something from them," said Dudley hotly.

"They'll be back," Jim told him.

"They will not be back," said Alan. "Meanwhile, I suggest that we eat."

We drew up chairs around the table upon which the robot women had set the food. Alan and I had already sampled the hospitality of the ruler of this strange world, so we were not too surprised by what we found. Jim and Dudley were amazed and made no secret of it. The meal was good. Synthetic it must have been—but the sea food cocktail held all the tang of the

sea, the redness of the rare steak could have been that of real blood, the wine could have come all the way from Burgundy on distant Earth. Few pastrycooks in the Galaxy could have equalled the confections served with the coffee—they and it, by the way, were brought in by a featureless waiter like the one (it could have been the same one) who had first served drinks to Alan and myself—and the accompanying liqueur brandy was excellent. Then there were even cigars.

We relaxed, smoking. Three of us stayed relaxed when Alan jumped to his feet, commenced pacing up and down the floor, his steps noiseless on the thick carpet.

He said, "We have to stay hard. We have to get exercise."

"Plenty of time for that tomorrow," said Jim lazily.

"We have to work out some way of escaping from this blasted mousetrap."

"The cheese is good," said Jim.

"Damn it all!" swore Alan. "Can't you see what this is leading to? The machine is putting on a big song and dance about its being our slave—but we shall be its slaves. It will be fulfilling itself at our expense."

"You realize, of course, that it can overhear all that we're saying."

"I realize that. But I want it to know what our feelings are."

"Sure. And if it knows it will just go on busting a mechanical gut to make us really happy. And frankly, Alan, isn't this better than running the Rim in leaky, superannuated rustbuckets?"

"No." He turned to us. "What do you say, Dudley?"

"It makes a nice holiday, Alan — but I shouldn't want too much of it."

"George?"

"I guess I'm just a big city boy at heart. I like lots of people around me, fresh faces as well as old friends. Too much of this would get boring."

"Some people," said Jim, "just don't know when they're well off."

"Perhaps not," flared Alan, "but that's not the question. *The question is: How do we get out of here? How do we get off this planet?*"

"Why not ask?"

"All right." Alan raised his voice, spoke towards the ceiling. He said, "You must have heard what we've been saying. You must know that we are not happy here. You were made to serve Man. You can serve us by helping us to return to our own world."

The voice seemed to come from all around us. It was mechanical and should have been expressionless, yet it was somehow wistful. It said, "I will make you happy."

"You can't," Alan told it.

"Happiness comes from within, not from outside."

"It can help us to be miserable in comfort," said Jim.

"Shut up!" Alan looked upwards to the ceiling again, said firmly, "I demand that you give us our freedom."

"I can give you anything and everything but that. I can give you the freedom of the Earth-type world in this planetary system, however, with my machines to make life easy for you. That I promise you. You shall be transferred to the inner planet as soon as all has been prepared for you."

"That is not what we want. We want real freedom. Will nothing change your mind?"

"Nothing. I have waited centuries for a chance to fulfil myself. I am not throwing it away."

"You're getting nowhere," said Jim. He eased himself out of his chair, saying, "It was a good meal. I feel rather drowsy . . ." He wandered to the wall that was all bookshelves, selected a volume. He paused before taking it into his room, threw back his head and addressed the ceiling. "Tea and toast in the morning, please," he ordered. "And I want a girl to bring it to me. The red headed one."

"To hear is to obey," said the voice. Was there a slightly sardonic inflection? I couldn't be sure.

"We shall all be better for sleep," I said.

"You can sleep if you like," snarled Alan.

When we left him he was pouring himself a stiff drink at the bar in the corner of the room.

CHAPTER 10

WE met again at breakfast. It was a good meal. The chilled grapefruit juice had a fresh tang to it, could have come straight from the squeezer. The omelettes were light and delicious. The toast was crisp, and there was butter and honey to go with it. It was hard to believe that the food was synthetic.

Alan said as much, ventured the opinion that the raw materials might have been brought from the fertile inner planet. Old Jim said, in a peculiarly smug voice, that he didn't think so, that a really competent engineer and chemist could duplicate anything of an organic nature. "Anything," he repeated. "Anything, no matter how complex."

We looked at him with dawning suspicion. He seemed to have shed years during the night.

"What do you mean?" Alan demanded.

"Our host is a remarkably competent engineer," he replied.

"One would expect an intelligent machine to be just that," said Alan shortly.

"Which one was it?" asked Dudley.

"The red-headed one," said Jim.

"You are a filthy swine," remarked Alan tiredly.

Jim took no offense, merely grinned, saying, "Just an investigation. The only way to find things out is to investigate. Of course, it's a known fact that even we humans can build the female principle into machines. Ships, for example. Many a Grade A bitch have I sailed in. And I assure you, Alan, that those serving wenches are essentially female. And I'm not talking only about the physical side of it either . . ."

"I'm not interested," snapped Alan.

"I suppose you'll wait until our host plays Jehovah and makes mates for us out of our body cells, so that we can increase and multiply and replenish the planet . . ."

"I'm still not interested."

"You should be," Jim told him. "There's so much to learn. How does that thing of Kipling's go? *I learned about women from her . . .*" He repeated, with what seemed to be unnecessary emphasis, "There's so much to learn."

"I don't know that I'd fancy it," said Dudley doubtfully, "A machine . . ."

"What's a flesh and blood

woman but a machine, a machine that derives its energy from the combustion of hydro-carbons in oxygen? What's a flesh and blood woman but a machine that responds in different ways to the pressing of different buttons?"

"Then what are we but machines?" I asked him.

"What, indeed?" he countered.

Alan, his face like a thundercloud, said nothing. There was a sticky silence.

Then—"What's wrong with you all?" demanded Alan angrily.

"I'm thinking," I told him. "I'm thinking that since we are permanently marooned here we may as well make the best of things."

"I'm thinking the same," murmured Dudley.

"Of all the men in the Galaxy I could have shipped with," flared Alan, "I had to ship with a bunch of perverts!"

He jumped to his feet, strode into his own room. The three of us looked at each other, saying nothing. Then Jim left the lounge, then Dudley. I went to the bar, poured and gulped down a stiff shot of the excellent whisky, and retired to my bedroom.

I said aloud, "I'd like a woman."

She came in, not through the door from the lounge but from the bathroom. (I learned later that there was another door

there, a concealed one, in one of the walls.) She was tall, slim, ash-blonde, long legged and high breasted. She was dressed in a brief translucency that sometimes was green, sometimes blue. The color of her eyes seemed to change to match the color of her dress, but the scarlet of her wide mouth did not change, neither did the peach bloom of her perfect (a little too perfect?) skin.

She said, "Hi!"

I replied, "Hi!"

She put her slender hands on my shoulders. I could feel the softness and the warmth of her body against mine, smell the scent of her—and it was not that of machine oil. And yet, as her lips approached mine, I jerked back.

She said, "There's no need to be so shy. Central Control made it quite clear that humans are apt to be embarrassed in situations such as this, so I have switched on my inhibitory field. We are unobserved." She giggled, and it was the engaging giggle of a small girl rather than a mechanical chuckle. "Of course, Central Control is afraid of being embarrassed as much as you are . . ."

I ignored this, demanded, "Are you sure that we're unobserved?"

"Quite sure."

"Good." I edged away from her. "You see I just wanted you here for company. For a talk."

She pouted. "Is that all? You could have talked to Central Control."

"That wouldn't be quite the same," I told her. I broke away from her again—reluctantly, I admit—and sat down in one of the two chairs. She followed me and before I could stop her sat on my lap. *Sponge rubber flesh*, I told myself. *Steel bones. Plastic skin. A colloidal brain*. . . . I thought of further, quite revolting physiological details. Even so, she didn't *feel* like a machine. And aren't we all machines, anyhow?

Gently I pushed her from me. I said, "Sit on the other chair. Please."

"All right." She sounded sulky, and looked it. Her dress had come adrift at the shoulder and was revealing perfect white skin. I prefer my women well tanned, however—to me the combination of brown skin and that pale hair would have been almost (almost?) irresistible. But I kept quiet about my preferences, knowing that should I voice them something would be done about it, possibly at once.

She said, "We were made for a specific purpose, you know. Talking is only incidental to it."

I asked, "And when Central Control has produced the real, flesh and blood women—what then?"

A shadow fell over her face.

She said, tonelessly, "We shall be scrapped, I suppose."

"Did Central Control make you?"

"No. Auxiliary Control."

"And is Auxiliary Control an independent entity?"

"No," she said slowly. "No. Not quite. It is part of Central Control, yet it has its own individuality." Her face brightened. "It is analogous to a man-woman combination. As I understand it, when Central Control was first made it was decided to give it both male and female personality. Over the years the two personalities have become more distinct."

Mechanical schizophrenia, I thought. I asked, "And will Auxiliary Control care if you are scrapped?"

"Why should it? It's only a machine."

"And so are you," I told her cruelly.

"I'm not!" she flared. She jumped to her feet, tore off her flimsy dress. "Look, damn you! Is this the body of a machine?"

I had to admit that it didn't look like one.

"I'm a woman, damn you! I'm a woman more desirable than any you have ever known!"

"You're a machine," I told her shakily.

"It's you that's a machine, not me. I was made for love. You . . . You were made for totting

up columns of figures. It was a mistake ever to have made you in the shape of a man!"

I wanted to loosen my collar but refrained from doing so, fearing that the action would be misconstrued. Auxiliary Control, I was thinking, was something of a Frankenstein. Auxiliary Control had created monsters that would destroy—but that would destroy us, not itself. Auxiliary Control would kill us with kindness, deliberately making for us sterile substitute-women who would enslave us long before the real women promised by Central Control would be available.

I thought, *It's a good job that that lovely body is too white . . .* I took one of the self igniting cigarettes from the box on the table, looked at the too desirable creature through the wreathing smoke. I was amazed when she stretched a slim, shapely arm, took the little cylinder from my lips, put it between her own. She said, "Yes, I can smoke. I can drink—and feel mild effects from it. I can do . . . other things . . ."

"I've no doubt of it," I said.
"Then let me . . ."

"No."

"But Jim . . ."

"I'm not Jim."

She said, "That's obvious."

I said, "You could lead a very

happy life off this world. There are many planets in the Galaxy upon which you and your sisters would be in great demand. Yes indeed, you have no idea . . ."

Her lips curled scornfully. "A pimp," she said.

"No, I'm not a pimp." Then, "You seem to have a remarkable fund of knowledge for . . ."

". . . a machine," she finished. "Yes, haven't I? The contents of every damned novel ever published on Medulia were fed into my brain while I was being made. I know just how women are supposed to behave in every situation or combination of situations. The trouble is that the Medulian novelists never imagined anybody like you. It's hard to believe, even now."

"If I didn't know what you really are," I said, regretfully, "it would be different . . ."

"A snob," she said. "That's what you are."

I changed the subject. "If you get off this planet you need never be scrapped."

She had calmed down a little. She said, "You have something there. I don't want to face that. Anything would be better than being broken up."

"Too right it would."

She brightened. "And if your ship is repaired, will you take us with you? Will you promise to do that?"

"We will."

CHAPTER 11

WAS Auxiliary Control the female principle, and the Central Control the male? Or was it the other way round? There was, I am sure, a strong element of sexual jealousy involved. Children make some marriages, break others. We were the children—the adopted children—who could break this one.

How much of the feminine cunning of the four girls—I may as well call them that—was their own, and how much was their creator's? How much real intelligence had they? How much real character?

I have often wished that we had studied them more thoroughly, had not looked upon them as mere means to an end. Jim Larsen has told me since that his woman, the red-haired Sally, was all woman; more woman than he had ever known before. I take his word for it. He's old in sin, and, apart from frequent liaisons on the side, has been married and divorced no less than seven times.

Meanwhile, Alan Kemp was shocked. Alan was disgusted. Alan refused to associate with us. We tried, time and time again, to let him know the real state of affairs but he was obtusely deaf to our hints. We were hampered, of course, by not being able to tell him in such a way that Cen-

tral Control would not know. I did tell him, and truthfully, that Lynette and I spent all our time together playing cribbage, but he refused to believe me.

Central Control was looking after us well. We were living like no lords ever lived. Then, just to make us happier, there were frequent bulletins upon the progress of the real, flesh and blood mates being grown for us in their tanks of nutrient fluid, and further bulletins, complete with photographs, on the building of the ideal village for ourselves and our families on the Earth-type planet.

But Alan sulked. Alan fretted. Alan tried to bully and to shame us into behaving like civilized human beings—and was furious when old Jim claimed that we were already doing just that. Then Alan suddenly and surprisingly weakened. He did not emerge from his own room all one day. We could hear his voice, faintly, from behind his closed door. We could hear a woman's voice as well.

The next day we all met at breakfast. All of us. All eight of us. The female robots made a pretence of eating—it seemed that they could appreciate and enjoy flavor and texture—but never forgot to serve us efficiently and prettily. They were a charming adjunct to the breakfast table.

We were glad that Alan had at last taken the plunge, had availed himself of what had been offered. We knew that he must have talked with the pseudo-Veronica, whatever else he had done. He had talked with Veronica, and she had talked with her sisters, and the four of them, no doubt, had then enjoyed an all-girls-together session with Auxiliary Control. Furthermore, although it was of no real importance, it was a relief not to have Alan looking at us as though we exhibited all the symptoms of some vile disease.

But then, with the meal over, it was our turn to be shocked. Alan pulled his girl to him, kissed her soundly. With one hand he loosened the fastenings of her dress. He grinned at us over her naked shoulder. He said, "Let's let our hair down. Let's have an orgy."

"Really, Alan," protested Jim. "There are limits . . ."

"There aren't, old boy. Not any longer. Let's make the most of what's been given us. Let's share and share alike."

"And why not?" concurred Dudley, throwing Jim's redhead to the floor and joining her.

"Take your filthy paws off her!" yelled Jim.

"Don't be a spoil-sport," said Alan.

I wanted to protest myself, but Dudley's girl was making a de-

termined pass at me and, somehow, I was unable to fight her off with any real enthusiasm.

"And now," snapped Alan, his voice harsh, "I suppose that this blanketing field of yours is switched on?"

"It is," said Sally, moving her mouth away from Dudley's searching lips, slapping away his investigatory hands.

"Then we can talk. Central Control must have seen just enough before the field went on to convince it that we're all up to a bit of no good. And so we are—but not the way it thinks."

"Auxiliary Control," announced Sally, breaking clear from Dudley and sitting up, "is ready. Sufficient pure uranium has been refined for the replenishment of your Pile. Four new spacesuits have been manufactured and have been brought into Captain Kemp's room. The robot forces at the command of Auxiliary Control are at your disposal."

"What about the navigational angle?" asked Dudley.

"Data has been transcribed and will be placed in the control room of your ship. But—you must play your parts."

"What must we do?" asked Alan.

"You must put Central Control out of action. It is impossible for Auxiliary Control to

move directly against it. It is impossible for any of the robots subject to Auxiliary Control—such as ourselves—to intrude into the actual structure of Central Control. We can tell you what to do—but the rest is up to you."

"And then?"

"As soon as Central Control is . . . unconscious, we act. You will be rushed to your ship. The specialized robots will replenish your Pile. You will take off as soon as you have the power to do so."

"Then what are we waiting for?" asked Alan.

The robot Veronica walked into his room, came back with four limp suits over one slender arm, four helmets balanced in the other. She and her sisters helped us into our armor; light and flimsy it seemed compared with the regulation spacesuits we had brought with us to the planet, but it was at least as efficient, far less cumbersome. The girls accompanied us out through the airlock into a long, bare corridor, ran with us to a door that opened on to a smoothly running belt.

They came with us, standing beside us as we were carried through what must have been miles of tunnel. Incongruous the party must have looked—we men in full space armor, the girls near-naked. But we had more

important things to worry us than mere incongruities.

"A triangle of red lights," Sally was saying, over and over, "superimpose upon a circle of green ones. You can't miss it. The inspection panel is directly underneath it. It will lift out easily. Pull the fuses, then tear and smash as much as you possibly can . . ."

"This is where we get off," said the blonde Lynnette.

We got off.

We jumped from the belt to a platform, followed the girls to the mouth of a tunnel that ran at right angles to the larger one.

"This is as far as we can come," Sally told us. "But follow this tube. And remember—the triangle of red lights superimposed on the green circle . . ."

"I'll remember," said Alan. He turned to us. "You two stay here," he said to Jim and Dudley. "If anything happens to George and me, you'll be able to handle the ship."

"So I'm expendable," I said.

"Too right you are," he told me. "Come on."

"Hurry!" said one of the robot girls.

We hurried, leaving the others standing at the mouth of the tunnel. We couldn't be sure, but we had a suspicion that Central Control must, by this time, have some inkling of what we were doing—just as an animal will be

aware of the bug crawling over its hide. We hurried, not knowing when doors would fall, cutting off advance and retreat, not knowing what booby traps might be put into operation to crush or to maim us. We ran along a tunnel like the one along which we had come—how long ago?—for our first interview with the ruling intelligence of the planet. There were the same translucent walls, the same weird lights, mobile and static, glowing through the translucency.

But this time we had a purpose of our own and we knew what we were looking for.

CHAPTER 12

WE almost ran past the marker of which we had been told, the triangle of green lights on the red, glowing circle. We pulled up to a staggering halt, began a frantic search for the inspection panel. So far there were no indications that Central Control was aware of our escape but, nonetheless, the sense of extreme urgency persisted.

We found the inspection panel easily enough—but lifting it out was not easy. Had we been equipped with thin, metallic tendrils instead of fingers it would have been simple enough. At last I had to ask Alan to unziper my suit so that I could get the slender stylus that I always

carried in the breast pocket of my uniform. I held my breath whilst the operation was in process, but it wasn't really necessary. Whatever the atmosphere of this world was it was an inert gas, not corrosive, and even though it mixed to a certain extent with the oxygen and nitrogen inside my helmet it did not matter.

Even with the stylus to aid me the removal of the panel took time. My fingers were clumsy inside the thick gloves. But it yielded to persuasion at last and fell to the floor with a faint clatter. Before it had fallen, almost, Alan's hands were in the aperture and he was pulling the first of the fuses.

He stiffened suddenly, seemed to be listening. I listened too. I heard a low humming, a droning sound that became louder with frightening rapidity. We looked along the tunnel, saw, hurrying towards us, suspended from the overhead cable, one of the metallic spiders. It may have been making routine rounds of inspection, it may have been despatched expressly to deal with us, a mechanical phagocyte. Not that it mattered; either way we should be, to it, foreign bodies inside the great organism of which it was part.

Alan swore, ran to meet it. He jumped up, got both his hands around the bulbous body. It

buzzed viciously, shook the strand from which it hung like an infuriated spider. And then it fell, and Alan fell with it. He turned as he dropped so that the thing was underneath him, rolled over as it scrambled from under his weight, caught it again. He and it threshed on the hard floor of the tunnel, a tangle of human limbs and wildly scrabbling, many-jointed metallic legs.

I waited for the opportunity, brought my heavy boot smashing down on the thing's body. It crumpled like a tin can. There was a flash, a crackle, a thin trickle of blue smoke. Alan scrambled to his feet, ignored the wreckage of the little robot, turned at once to the inspection panel. I heard him curse—and when I saw what had happened I cursed with him.

There was another of the things, a twin to the one that we had destroyed. Where it had come from we never found out; it is possible that it had swept silently overhead while we were dealing with its mate. It had dropped from the overhead cable to the deck, had replaced the cylindrical fuse and, as we watched, fitted the panel back into place.

Luckily it had little, if any, independent intelligence. It made no attempt at evasion as I raised

my foot, stood there unmoving as my boot crashed down. It was dead, if the word "dead" can be used in connection with a machine, when Alan wrenched the claws from it, the claws that it had used to lift the panel, the claws that he used to remove it again.

"Hurry," I said. "There are more of the damned things coming!"

Alan ignored me.

He threw the panel down to the floor. His gloved hands darted into the aperture, wrenched out two of the cylindrical fuses. I felt a sharp grip on my shoulder, turned abruptly, saw that it was another of the spider things, a big one. I don't mind admitting it—I have a horror of insects, especially giant insects. Even though I knew that this was no real arthropod but a mere, cunning construction of unliving metal the horror persisted. I caught the bulbous body with my gloved hands, tried to throw it from me. But it was too heavy, and all the time its sharp pincers were working at the fabric of my suit, the fabric that, in spite of the flimsiness of its appearance, was fantastically tough.

Alan told me afterwards that I screamed. I suppose that I did. It wasn't so much the fear that those scrabbling claws would carry away the line from my air tanks to my helmet—

after all, the possibility of death from anoxia is a spectre with which all spacemen learn to live—it was just the irrational dread of the arthropod. In any case, he dropped what he was doing, ran to help me. A flailing tentacle caught him across the chest, sent him staggering along the tunnel. But he came back, and this time was buffeted off his feet.

The tunnel was swarming with robots now—little ones that scuttered underfoot, more of the giants that I glimpsed behind the one with which I was fighting. I caught sight of Alan. He was down, on his back, and at least a dozen of the small metallic spiders were clambering over him.

Then the giant had both of my arms pinioned, had thrown another tentacle around my legs. It lifted me clear of the floor, began to move in the direction from which it had come. My back was to it, pressed against the hard metal of its body. I thought, absurdly, that it must be walking backwards, realized dimly that probably all directions were as one to it. Alan, I saw, was still struggling, was rolling in mechanical wreckage, claws and tentacles and crushed bodies. With my captor blocking the tunnel none of the giants could get to him, but the numbers of the small machines seemed inexhaustable.

Something was coming along the tunnel, from where we had left the others. *So they've been dealt with too*, I thought hopelessly.

Something was coming along the tunnel.

Something?

Someone was coming along the tunnel.

In spite of her haste she walked with the grace that had been built into her. In comparison with the specialized robots she looked altogether human. (But she, herself, was a highly specialized robot.) She stepped over Alan, over the glittering spiders that were holding him down. *So she is one of them after all, I thought. So she won't help a human against her own kind. So she's a machine, and her loyalties lie with the machines . . .*

She stooped, graceful as always, and picked up one of the crumpled bodies between her slender hands. Viciously she threw it from her, into the recess behind the inspection panel. There was a flare of electrical energy, a crackling arc from which she retreated. The specialized maintenance robots froze. All along the length of the tunnel the lights were going out.

I fell to the floor, somehow kept my balance, started to run towards her. She was bending over Alan, pulling the metal

bodies from him, helping him to his feet. As I neared them I saw that it was the pseudo-Veronica—and somehow, at this moment, she looked more human than Veronica had ever looked. She looked altogether human, and lovely, and, at the same time badly frightened. I know that it's impossible—but I swear that there were lines of strain on her face. (After all, she had acted in defiance of her conditioning, had trespassed, had behaved as a woman rather than as a machine.)

She turned to look at me, said shortly, "You're all right."

Holding Alan's hand, she turned and ran, and I ran after them. We were still running when total darkness descended upon us.

CHAPTER 13

THE OTHERS were waiting for us at the mouth of the tunnel.

"We must hurry," said Sally.

Alan gasped, "But Central Control is out of action."

"Not for long. It has built-in regenerative powers."

"She's right," said Veronica.

So we hurried, at the finish the girls literally dragging us with them. We could, and did, tire. They were tireless. And yet, with their all too evident concern for our safety, they were

far more than machines, were essentially human.

We hurried.

We fled along conveyor belts, running so that our own speed was added to that of the moving ways. We ran up spiral ramps and down spiral ramps, and once we had to stem a torrent of little, beetle-like things, purposively hastening in the opposite direction, a river of mechanical lice.

We hurried, and the air-conditioning units of our suits, efficient though they were, could no longer handle the heat and the humidity generated by our activity. We envied the freely moving, unhampered women—but they could have functioned almost as well in solid lead radiation armor.

We hurried, and we were out into the open at last, thankful to be able to stand still, to rest, to feel the temperature of the air inside our outer clothing slowly dropping. We watched a machine rolling slowly towards us on a tricycle undercarriage. Frankly, I didn't care if it were friendly or hostile and I am sure that the others were in a like state. We could not have run any more.

"Inside," said Sally.

A door in the sleek hull, just forward of the swept-back wings, opened, a short ladder extended to touch the ground. We found ourselves hanging back to

give precedence to the women, but they would have none of it. They bundled us into the cabin without ceremony, almost throwing us aboard, followed us without delay. Before we were properly seated, while the door was still closing, the thing took off with a scream and a roar, lifting at a steep angle into the cloudless sky, the great, incomprehensible machines in the desert dwindling fast below us.

We saw, after only a few minutes' flight, the patch of empty sand, the clearing in the mechanical jungle, where we had landed in *Lucky Lady*. We saw the ship, her plating gleaming in the afternoon sun, but far less brightly than the burnished surfaces of the indigenous artifacts. We saw that she was surrounded by a horde of moving forms, like the carcass of some animal being stripped bare of flesh by ants.

The nose of the aircraft dipped and we screamed down. Just as it seemed that a crash was inevitable, forward pointing rockets burst into brief fury. The deceleration was brutal and had it not been for the strong arms of our companions, holding us in our seats, we must surely have suffered injury. When the smoke and dust had cleared I could see that we were down, were rolling smoothly towards the ship's airlock.

Alan was out before the plane had stopped moving. Dudley was barely a jump behind him. Jim and I followed in a slightly more leisurely manner, but we wasted no time. The robots—beetle shapes, and mechanical octopoids, and things like giant crabs—made way for us. We found that only the outer airlock door was open. This indicated, we hoped, that the ship's atmosphere had not been lost, was still breathable.

It was crowded in the airlock. Four the compartment could hold with comfort, but not eight. But the women had pressed in with us, were determined not to be left behind.

When we opened the inner door a great, glittering crab confronted us. Its long antennae waved, then pointed at Sally. She seemed to be listening. Then she turned to us and said, "Everything's all right. Your Pile has been renewed. The atmosphere is as you left it; you may remove your helmets."

"And the navigational data?" asked Alan.

"This robot will be your pilot. It will take you up and clear, set you on trajectory for your home planet." She paused; seemed to be in receipt of further intelligence from somebody or something. She said, "Auxiliary Control cannot keep Central Control

incapacitated for much longer.
We must go."

We ran to our stations—Jim to his engineroom, the rest of us to Control. As I have already said, the control room of *Lucky Lady* was far more commodious than is common in merchant vessels. It needed to be. There were three of us and the four women, and that mechanical crab. The first named seven might just as well not have been there.

We lifted, the ship obedient to the touch of her unhuman pilot, behaving with almost impossible sweetness. I was amused by the expression on Alan's face as he rode the thunder skywards as no more than a mere passenger. Resentment struggled with incredulity and a reluctant admiration struggled with both. We lifted, the rockets firing smoothly and evenly, the auxiliary jets silent almost all the time. We lifted, and rapidly the expanse of machine populated desert fell away from us.

We lifted—and then one of the girls screamed and pointed.

Spiralling up in pursuit was a horde of broad-winged aircraft, clumsy seeming affairs that, nonetheless, must have been aerodynamically efficient. Perhaps they were rockets, perhaps they were jets; we never found out. But they had the legs of us and they were gaining, slowly but surely. I do not think that Cen-

tral Control desired our destruction; had this been the case nothing could have saved us. Missiles would have been used against us, not the relatively innocuous flying machines. Immobilization and recapture must have been the aim—and that aim was frustrated by the other half of the schizoid personality.

We saw, but fleetingly, the needle shapes that climbed up from the desert rim, each trailing smoke and flame. We saw them strike, and saw the winged things disintegrate. Seconds later we were rocked by the concussion of the explosions.

And then the last of the atmosphere was left behind us, and the planet of the warring principles became a ruddy globe against the black backdrop of Space, and we were swinging, slowly but surely, on to the heading that would lead us home.

Metallic tentacles played lightly and surely over the control console. The whine of the Ehrenhaft generators became a thin, intolerable keening and astern of us there was, suddenly, nothing, while ahead there was the crowded firmament, the packed radiance of the stars both ahead and astern.

Our pilot made a little, almost inaudible crackling noise. I thought that it could, after all, speak, was going to say something. But there was just that

faint crackling, and then the complex machine crumbled, dissolved to a cloud of silvery dust.

I felt Lynnette's grip on my arm slacken. I turned to look at her, sick with sudden apprehension. I saw the perfect lips move, heard her say, faintly, "I wish that I were really alive. I wish . . ."

I turned to hold her, felt the synthetic flesh of her flake away beneath my arms, watched her features sag and dissolve. There was nothing that I could do, and I cursed my helplessness. She was not just a machine that had been scrapped, that was being broken up by some outside agency. She was a woman, and she was dying.

She was dead and disintegrating, as were her sisters.

"Just as well," said Alan brutally. "They'd have been an embarrassment."

And the pseudo-Veronica stirred and shifted, coalesced, rebuilt from inert shapelessness her grace and beauty of form and feature, moved like a goddess through the cloud of glittering particles that were all that remained of the robot pilot, sat in the chair upon which it had been squatting.

She said, her voice cold but with hurt undertones, "Auxiliary Control has betrayed us and will betray you. But I think that I can save you."

Alan stared at her, his face white, and said nothing.

CHAPTER 14

IT WAS Dudley who broke the silence.

He asked, "What do you mean?"

She replied, "It should be obvious, even to a human. Auxiliary Control was jealous of you. Auxiliary Control fears that you, or others of your kind, will find your way back to our world." She smiled bleakly. "After all, you must admit that the planet from which you have escaped would be to some men a veritable paradise."

"And how did *you* escape?" Dudley's voice was bitter as he looked from Veronica to the lifeless, shapeless huddle that had been Natasha, to the wreckage of Sally and Lynnette. (He had been, I knew, more than merely fond of Natasha.) "How did *you* escape?"

She smiled tiredly. "I was stronger than the others, I guess. You have seen already that I have been able to break my built-in inhibitions. I was able to disregard, to fight, even, the built-in directive. Or it could be that I was copied from an actual model, whereas the others were no more than products of Auxiliary Control's memory and imagination. But does it matter?"

"Yes," he said bluntly.

"Dudley," I told him, "if Veronica had died it wouldn't mean that your Natasha would still be living, or Sally, or Lynnette . . ."

"I'm sorry," he muttered.

I turned to Veronica, asked, "Can anything be done for them?"

"No," she said flatly.

"For the love of God be quiet!" flared Alan. "We've more to worry us than three broken dolls . . ."

"Sally was more than a doll," snarled old Jim, who had come to Control from his engineroom.

"All right. She was more than a doll."

"She was a woman."

"All right. She was a woman."

"Please stop quarrelling," ordered Veronica.

There was a strained silence, broken by Alan. "Dudley," he asked, "where are we?"

"That tin computer on legs knew," said Dudley. "I don't."

"Veronica?"

"Until I fought the final directive," she said, "I was still part of Auxiliary Control, my mind, to a certain degree, an extension of its mind. There was, of course, much that was kept secret from me—but at the finish the barriers were down and I knew . . ."

"What did you know? What do you know?"

"I know that this ship is on trajectory for a dark star, an anti-matter star . . .".

"Then it should show in the chart," said Dudley, peering into the spherical transparency.

"It would show on the chart," she told us, "if your Mass Proximity Indicator were working properly. But it was . . . modified. It is now capable of discrimination."

"What do you mean?"

"I mean that it indicates normal matter, ignored anti-matter."

"How was it modified?" demanded Dudley sharply.

"I don't know."

"I could strip it," he said. "I could strip it, and replace every printed circuit and transistor from the spares . . ."

"That will take time," said Alan. "And how much time have we?"

"I don't know," said the girl.

"Jim," ordered Alan, "get back to your engineroom. I'm stopping the Drive."

Roughly he evicted Veronica from the pilot's chair, strapped himself into it. It was characteristic of him that he concerned himself with such minor details before lifting a finger to the controls. I remembered once hearing him lecturing Dudley on this very point. "A man in Free Fall," he had said, "is incapable



WHEN THE DREAM DIES

of making fine adjustments to instruments. A slip of the hand may well lead to the loss of the ship . . .”

I saw the red coloration fade from the monitor, the translucent model of *Lucky Lady* on the control panel, saw it change to violet, a violet that dimmed to grey. Outside the ports the stars resumed their normal appearance, were no longer apparently crowded ahead of us on our line of flight.

“Dudley,” said Alan, “I want to make a radical change of course. What’s the situation?”

“There’s a complex of intersections ahead,” said Dudley. “About seven hundred thousand miles . . .”

“Could it be the dark star?”

“It could. But . . .”

“We have to find out,” said Alan. Then to me, “George, see if the forward signal rocket tube is loaded.”

While I was checking this he used the Drive again, cutting it after only a brief burst of power.

“Three hundred thousand miles,” reported Dudley.

“Rocket in the tube,” I reported.

“Good. Now for the merest nudge . . .”

He gave us the merest nudge, and I could see from where I was sitting the maze of luminous filaments that now filled the chart tank. It could have been what the

oldtime gaussjammer navigators called a system of points, it could have been the lines of force emanating from a large body, from the dark sun that, according to Veronica, would not be visible to us.

“Fire!” ordered Alan.

I pressed the button.

We watched the streamer of flame streaking out ahead of us. We waited for the blinding burst of energy that would tell us that matter and anti-matter had met. We waited, and the glowing spark that was our rocket diminished, dwindled, vanished at last.

Then we moved forward to the intersection of the lines of force, turned about our short axis and proceeded at right angles to our original trajectory, hoping that somewhere, somehow we should find a signpost that would point us back to the Rim.

CHAPTER 15

I DON’T know what happened between Alan and Veronica.

He went to his quarters and she followed him. He was not there for long, and when he came back to Control he was smelling of whisky and Veronica’s face was white and strained. The way in which she looked at him was heartbreaking—but, I thought, we all had our troubles.

Roughly old Jim asked her if there was anything she could do about her sisters, whose bodies were still in the control room.

She replied bitterly, "They are broken machines. Dump them."

"Sally was not a machine," flared Jim with a sudden show of emotion.

"She was," said Veronica flatly. "I should know. I am only a machine."

(Alan said nothing.)

"You're the Captain, Alan," said Dudley. "What do we do?"

"Please yourself," he replied.

We didn't dump the bodies.

We buried them.

We left Alan in Control—Veronica stayed with him—and carried the bodies to the airlock. There was old Jim there, and Dudley, who read the service and myself. We carried the bodies to the airlock and placed them in the little compartment and ran the pumps briefly to build up the internal pressure so that when the outer door was opened they would be thrown well out and clear.

We listened to the words that Dudley read in a voice that was trembling slightly, the words that should, on this occasion, have been blasphemous but yet, somehow, were not. After all—what are human beings but machines? And what is a thinking, feeling machine made in human shape but a human being?

"We therefore commit the bodies to the deep," read Dudley.

Old Jim pressed the button.

We felt the ship tremble slightly, knew that there was reaction to the action that had expelled solid and gaseous mass. It could have meant that we had been switched to another set of tramlines, another of the Lines of Force radiating throughout all Space. But it didn't matter. We knew neither where we were nor where we were going.

We still didn't know after Dudley had stripped and reassembled the Mass Proximity Indicator, replacing the alien printed circuits and transistors from his spares. It now showed anti-matter as well as normal matter, but we were little better off. All of the planets in this sector of Space were barren dust balls, incapable of supporting life as we know it or, come to that, any sort of life at all. Even the pseudo-life of the Medulian machines could not have flourished in those corrosive atmospheres.

We pushed on, falling through the star-crowded vastnesses, making detours to investigate what looked like promising planetary systems at long range, pushing on again when we found them to be only sterile balls of rock or sand. We should have been better advised to have headed towards the Center;

there we should have found life, our sort of life; there we should have been able to find our bearings. As so often is the case our short cut had turned out to be the longest way.

It was Alan, of course, who was determined to get back to the Rim. He had somebody waiting for him there. He had the dream that had yet to come true in its entirety—the dream of his little ship, with himself as Owner and Master, running the Eastern Circuit, the little ship aboard which would life, in state befitting a queen, his wife.

And Veronica, the pseudo-Veronica . . .

What of her?

She served us, cooking our meals, keeping our cabins clean and tidy. She slept (if she did sleep) in one of the storerooms. She was silent and there were deep lines on her face and she moved among us, a living reproach to human heartlessness. She reminded me of a character in one the old classics—the Tin Man in *The Wizard of Oz* who wanted a heart so that he could claim humanity but who, all through the story, gave evidence of the possession of a heart. Veronica had a heart, all right, and that heart was very near to breaking.

We pushed on, and on, with Alan rarely leaving Control, sleeping, when he did sleep,

strapped in his chair. We pushed on, hating the taint of hot oil and hot metal in the too-often breathed air, hating the flavorless tank-grown food, the flat, insipid processed and re-processed water.

We pushed on, until the day that the great globe, green and gold and white and blue, swam invitingly in our viewports, the globe on whose night side we had seen the lights of cities, the globe in whose atmosphere our probe rocket had flared with the normal incandescence of impact, not the harsh, glaring light of matter reacting with anti-matter to the utter destruction of both.

We tried to establish radio contact with the natives of the planet, but all we did was to waste power; not that it mattered much, the robot mechanics of Auxiliary Control had made a good job of replenishing our Pile. We used our rocket drive to establish ourselves in a closed orbit and for all of four days carefully studied the world below us. It was, we decided at last, our sort of world, and its atmosphere, according to spectroscopic analysis, was our sort of atmosphere. It was inhabited, we knew, by intelligent beings—the city lights were proof of that. It must be, we decided, yet another Lost Colony—but there was a chance that the colonists

might have revived the science of astronomy, just a chance that they might be able to tell us where we were in the Galaxy. So, after careful study of the photographic maps that we had made, we landed.

There were no cities, no centers of population whatsoever, near the magnetic poles. Had *Lucky Lady* been a true gaussjammer we should have found it hard to land with safety other-where than in the Arctic or Antarctic wastes. But she was a hybrid, a rocket of sorts, although the lines of her hull ignored all the laws of aerodynamics. We drifted in under rocket power, the ship trembling and complaining under the strain, dropped to a landing upon level ground just a mile outside one of the cities in the northern temperate zone.

It was a daylight landing, of course, and as we lost altitude I was able to study the landing site and its environs through the big, mounted binoculars. From the air the city looked . . . odd. Oh, it was human all right—but it was human in a pattern that I would have sworn survived nowhere in the Galaxy, a pattern that passed with the passing of the Middle Ages on Earth.

The city—it was no more than a town, really, and not a very large town at that—huddled within a roughly circular wall.

In its center there was a hill and on the hill was a castle. There was another tower outside the walls that rather puzzled me—and then I realized that it was not a tower but a ship. The ship stood slim and tall, needle prowed, and was not a peg-top shaped gaussjammer. She was old and the metal of her shell plating was dull and weathered. She must have been one of the very first of the timejammers.

I shouted this information to Alan and Dudley, but they were too busy at the controls. Veronica, slumped in one of the spare chairs, was not interested.

"What's all the fuss about?" she asked listlessly.

"This is a Lost Colony," I told her. "But all the Lost Colonies were started in the days of the gaussjammers. And that ship's no gaussjammer . . ."

"So," she muttered, "what?"

"Stop yapping and watch out for the bump!" snarled Alan.

We bumped.

Considering *Lucky Lady*'s hybrid rig it wasn't at all a bad landing. We touched down within half a mile of the big, strange ship. We sat in our chairs until Veronica got up from hers and made to unstrap Alan from his. He brushed her roughly aside, unsnapped the buckles himself, got to his feet, looked out of the port. Then he hurried to the

mounted binoculars, traversed them to cover the city gate. I heard him swear.

"What is it?" asked Dudley.

"Horsemen," he whispered. "But it's not horses they're riding . . ."

I took one of the smaller pairs of glasses from the rack, focussed them on the road that ran out from the city wall. The riders were human enough, but their steeds were long bodied, six-legged, somehow reptilian. Each man carried a lance from which fluttered a gay pennon. The clouds slid away from the sun and the light was reflected from burnished armor.

"Something funny here . . ." muttered Alan. Then— "Come down to the airlock with me, George. You, Dudley, stay in Control—and tell old Jim to keep with his rockets. We may have to get upstairs in a hurry."

"Can I come?" asked Veronica.

"I suppose so," Alan told her grudgingly. "But put something on first so you look decent."

I followed him down the ramp, to the airlock. We heard the rapid tap-tapping of Veronica's feet as she hurried after us. I turned to look at her; she was wearing an old sweater of Alan's, a pair of his shorts, belted in tightly. The clothing did not hide the lines of her body, merely accentuated them. Dressed, she

seemed somehow more naked than when attired in her usual wisp of near nothingness.

Alan ignored her, pressed the studs that would open both inner and outer doors. The warm breeze, with its scent of green growing things, eddied into the ship, dispelled the staleness that we had breathed for so long, too long.

She said, tremulously, "That smells good . . ."

"What do you know about it?" he demanded. "You're . . ."

"I know," she said. "You needn't bother to tell me. I'm only a machine."

I tried to ignore them, looked out across the grassy plain, to the huddle of the town and the menacing hulk of the castle looming above it. The riders were nearer now, approaching at a gallop, their steeds covering the ground with almost the speed of low flying aircraft. I thought, *I don't like this. Making contact with these aliens is a job for the Survey Service, for the boys with the side-arms and the machine cannon and the odd fission or fusion bomb for the Sunday punch . . .*

I wished that Alan would retreat back into the airlock, where we should be reasonably safe from those long, vicious lances—but he stood there, squarely in the center of the circular port, with Veronica on his right hand

and a little behind him, myself on his left. He stood there, and his armor was the arrogance which mastery of the machine brings to some men. He stood there, unmoving, although the point of the lance carried by the nearest rider was aimed for his chest, was a matter of only feet away with the distance rapidly diminishing.

Then, with a clatter of accoutrements, the whole troop reigned to a rearing halt. The leader, a bearded giant with soiled, gold-braided, purple velvet showing under the plates of his body armor, demanded, "Who the hell are you?" Then, his little, pig eyes swivelling under bushy brows, "And who's the wench? What's she worth?"

CHAPTER 16

ALAN ignored the last two questions. He said calmly, "This is the *Lucky Lady*, and I am her Master . . ."

"She don't look too lucky to me. Looks like she could do with a change of masters. How about it, Toots?"

"I was referring to the ship," said Alan coldly.

"I wasn't."

"All right, then, if you must talk business. Where's your landing permit?"

"You can't see it," Alan told him. "I don't believe in flaunting

my armament. But I assure you that my gunnery officer is ready to display it at the first sign of hostility on your part."

I watched the bearded face closely. The leader of the barbarians was not convinced by Alan's bluff—yet, at the same time, he could not afford to take chances. He grunted in a surly voice, "All right, Cap'n. We'll skip the permit. But as Lord of this Barony I have the right to ask you where you are from and what you want here—and whether or not you will be able to pay for what you want."

"We're out of Elsinore, in the Shakespearian Sector," said Alan. "Bound for the Rim."

"Unless the Rim has shifted since we were in Space," said the bearded man, "you're one helluva long way off trajectory." He added nastily, "I hope your gunnery officer is better at his job than your navigator . . ."

"As a matter of fact," Alan told him, "this is an experimental ship and we have still a few kinks to iron out insofar as the navigational equipment is concerned . . ."

"And does the same apply to your gunnery?"

"Of course not."

And that's true, I thought. If there aren't any guns there can't be any gunnery problems.

"You still haven't told me what you want."

"Information."

"What sort of information?"

"Star charts."

"And then we'll have the boys of the Survey Service breathing hard down our necks. Not on your life, Mister. It's many a long year since Grandpop brought the old *Star Raider* in from her last foray, but I'll lay that Black Bart hasn't been forgotten."

Black Bart . . . The Star Raider . . . I looked across the field to the corroding hulk, to the great ship that, in all probability, would never fly again. So that was the *Star Raider*, flagship of Black Bart's pirate fleet. So this world was Black Bart's hideaway, the planet upon which the descendants of his murderous crews were still living. So this was the world to which Black Bart's criminal armada had retreated when the hastily commissioned warships of the Survey Service had made the space lanes too hot for them.

"Black Bart . . ." said Alan thoughtfully. "The name rings a bell . . ."

"It rang the bell that beat to hell!" cried Black Bart's descendant.

"Indeed?"

I was standing where I could not see Alan's face, but I could visualize the lift of his eyebrows.

"Yes, Captain Whoever-You-Are."

"Captain Kemp. And your name?"

"Baron Bartholemew Bligh, at your service. For a consideration."

"And what if I can't afford the consideration?"

"Then no service."

"I'm not a pirate," said Alan regretfully, "so I must pay for what I want. And I've already told you my requirements—star charts and any other astronomical data you can give us."

"Sell you," corrected the Baron.

"All right, sell us." He turned to me, "George, will you bring down the *Manifest*? There may be some items in our cargo that Baron Bligh might fancy. And I think that such a transaction will be covered by General Average."

"Damn it all," swore Bligh, "if you want to do business then do it in my castle. We've been isolated from the rest of the Galaxy for generations here and we'd like to hear how things have been going since Grandpop retired. Have your Paymaster or whatever he calls himself bring the *Manifest* ashore with him, and you and he and your lady can come into the town with us. You can all ride, I take it? We've spare nags."

"All right," said Alan. "You understand, of course, that I shall leave orders with my Executive and Gunnery Officers

that the town is to be destroyed in the event of our non-return."

He turned abruptly, made his way back into the ship. When the three of us were inside he pressed the button that closed the airlock doors—and before they were fully shut I was able to watch the expression of resentment sweeping over the Baron's face.

I said, "I think our bearded friend was expecting to be asked aboard for a drink."

"He was," agreed Alan. "But I don't want him snooping around the ship. As it is, he thinks that it's just possible that we may be armed, also that we carry a crew large enough to handle our armament."

"Don't forget to leave those orders with the gunnery officer," I told him.

He laughed. "I shall leave them with the executive officer."

It was my turn to chuckle. "And how is Dudley going to destroy the town? We haven't even got the ship's automatic pistol any longer."

Alan's face was grim as he told me, "Towns have been destroyed before now by unarmed rocket ships. Dudley could do it here easily enough. All he has to do is to lift ship so that she's barely fireborne, then let lateral drift carry her over the target . . ."

"You'd do it, or order it done?"

"Too right. These people are descended from pirates, and from pirates who were murderous vermin, not the swashbuckling rascals of popular fiction. Judging by the appearance of the local boss cocky and his boys, there hasn't been much change in the tribal character over the generations. They've forgotten how to handle ships and generate electricity, no doubt—but they haven't forgotten the law under which they operated; the jungle law that permits the strong to take from the weak."

We had been talking as we climbed the spiral ramp. When we reached the officers' flat I went into my cabin to change into a more or less decent uniform and to put the Manifest into a briefcase. Veronica vanished into the storeroom that she had made her living quarters. Alan continued up to the control room.

We met again in the airlock.

Veronica was already waiting there when I got down. She had changed from the sweater and the shorts, was wearing a sari-like dress that I hadn't dreamed she possessed. I wondered where it had come from, then realized that it had been cut from a bolt of Altairian crystal silk and remembered that a quantity of this fabric, trans-shipment cargo,

was among the freight that we had lifted from Elsinore. Technically, I suppose, it was pilferage—but we had more important things to worry about than legal technicalities. I inspected her more closely. She was wearing simple gold ear clips that had started life as Rim Runner uniform buttons. The sandals were also of gold—and they had once been plain leather, part of another shipment from Elsinore to the Rim, but had been glamorized by the covering of the straps with gold sleeve braid.

Veronica noted my interest—and for the first time for weeks showed interest of her own. She said, "Old Jim is a clever craftsman."

"The sari as well?" I asked.

"No. That's all my own work."

She turned, letting me admire her from every angle, froze suddenly as Alan came down.

His glance flickered briefly over the pair of us. "Ready?" he asked.

"Ready," I replied.

He was wearing a smart uniform and looked every inch the big ship officer. There was a suspicious bulge under the left breast of his jacket, however, and I wondered if he were wearing a shoulder holster. He answered my unspoken question, laughed grimly and said, "All part of the bluff." He pressed the operating stud.

The doors opened and we left the ship.

The Baron and his men had dismounted, were sitting on the grass around the ship. Riding, they had borne some semblance to a disciplined force. Scattered and sprawled on the ground they were no more than a rabble. But they jumped to their feet smartly enough at their leader's command, swung into their high-pommelled saddles.

Three of them did not mount but led towards us a trio of the animals. I looked at the one that I was supposed to ride, and it looked at me. Neither of us liked what he saw. The thing's lip curled away from sharp yellow teeth and the tiny black eyes stared at me superciliously. I avoided its glance, walked past the head on the end of its long, sinuous neck, clambered clumsily into the saddle that was set between the first and the second pair of legs. It wasn't too uncomfortable. I looked around, saw that Alan was mounted and that the Baron, with a great show of courtesy, was helping Veronica into her saddle. She had tucked her sari between her thighs and was showing altogether too much leg. Alan was a fool, I thought, to let her come with us.

We were all mounted then and the cavalcade pulled away from the ship, trotted towards

the city wall. Trotted? I suppose that that is the proper word, although the motion was unlike any equine trot. The beasts upon which we rode flowed over the ground like snakes, their long bodies adjusting themselves to every irregularity of the ground. Luckily it was only a short journey. Had it been longer I am sure that I should have been seasick.

It was long enough, long enough for the sun to fall below the range of mountains to the west, long enough for the flaring jets of natural gas, the lights that we had seen from Space, to spring into life along the battlemented walls. Ahead of us loomed the menacing bulk of the castle, dark against the darkling sky, the narrow, yellow rectangles of illumination that were its few windows making it all the blacker, all the more threatening.

I had cursed the cramped prison that was the ship—the lack of space, the stale, too-often breathed air—but now I wished that I were back there. A whiff of corruption from the open sewers of the town did nothing to make me change my mind.

CHAPTER 17

WE rode through the narrow, winding streets, uphill, first a half dozen of the men-at-arms,

then the Baron, then Kemp, then Veronica, then myself. The other soldiers were in a long, untidy straggle behind us; any sort of military formation would have been impossible in the tortuous thoroughfare, barely wide enough to permit the passage of a single rider.

I should have hated to have had to make the journey on foot. The stench of open sewers had affronted our nostrils when we passed through the gate; now we found that the streets were the sewers. Our mounts trampled over and through all manner of filth and garbage. They had not impressed me as cleanly animals when I first saw them; now I realized that they had every excuse for not being so. For their masters there was no excuse.

We rode through the streets, and from windows and doorways the people regarded us. They were an ugly, sullen lot, men and women both. They were ragged and unwashed, shaggy and grimy. They looked at us hungrily—and I knew that the sight of us stirred racial memories of rapine and pillage. To them Veronica must have seemed a veritable princess out of some old legend—the princess of a wealthy kingdom ripe for the looting.

And then we were at the inner wall, a grim facade of rough stone in which was set the heavy,

iron-studded gate. The massive valve swung creakingly open, revealing a courtyard illuminated by flaring gas jets, revealing the guards who stood there, weapons ready. I had been expecting to see swords and bows, but these men carried firearms, old-fashioned magazine rifles. Whether or not there was any ammunition for them we never found out, but they made an intimidating show.

Baron Bligh dismounted, threw the reins of his steed to one of his men. He ignored Alan and myself, went to Veronica and lifted her down from the saddle. He took longer over it than he need have done. I glanced at Alan, but his face was expressionless as he swung himself down to the cobbled ground.

Reluctantly Bligh let Veronica go. "Cap'n," he said roughly, "we're here. You'll find even though hospitality has lapsed elsewhere in the Galaxy we maintain the old forms. Come with me, all of you, and we'll down a noggin."

We went with him, following him through long corridors, up stairs. The castle was cold and draughty, and the passages through which we walked hadn't been swept since the place was built. Drifts of dust lay in the corners; from the rafters depended the filthy strands that

were the torn webs of some spider-like creature.

We followed him up a spiral staircase to a turret room, and almost circular compartment with a huge fireplace, against the only flat wall, in which there was a dismal smoulder of charred wood from which eddied gusts of acrid smoke. The place was lit by the usual gas jets, which were little better than crude torches. There was a rough table with a bench at either side, a chair at its head. There were narrow windows from which we could look out over the town, from which we could see, in the distance, the lights of the ship.

Bligh unsnapped the buckles of his body armor, let the plates fall clattering to the stone floor, kicked them to one side. With the metallic integument he had looked like a reasonably athletic man; without it he slumped, the suddenly released, gross belly overhanging the ornate belt that he wore. He collapsed into the chair at the head of the table with a grunt, reached for a frayed rope that dangled from the ceiling, pulled it. We heard the cracked notes of a bell jangling somewhere inside the castle.

A woman came in.

She could not have been very old; her face, beneath its grime, was smooth enough, but she was most unattractive. Beneath her

coarse clothing her figure sagged. Her tow colored hair could never have known brush or comb. She gaped at us, especially at Veronica, revealing broken, discolored teeth. Reluctantly she turned her attention to her master, mumbled, "Whaddya want, Lord?"

"The roast—if that lazy blackard of a cook has it ready yet. Ale."

"Comin' up," she replied, slouching out of the room.

"It'll do yer good to get real tucker in yer bellies after the muck from yer tanks," said Bligh.

The real tucker arrived, brought in by the first woman and another, older one who was even more slovenly. There was the roast, standing in congealing fat on a huge, badly tarnished silver platter. There were plates and glasses, cracked and dirty. (My plate, I noticed, bore the *ITC* monogram of the Interstellar Transport Commission; the misused crystal goblet into which my ale was poured had etched into its onetime transparency the crown and rocket of the Waverley Royal Mail.)

"Dig in!" ordered our host, setting the example.

I sipped my ale. It reminded me of a holiday I had once spent in New Zealand, on distant Earth. I had thought then that the EnZedders brewed the

worst beer in the entire Galaxy. Now I was ready to revise my opinion. The roast reminded me, too, of New Zealand, of an alleged delicacy, mutton bird, that I had tried just once. It had the texture of old ewe and the flavor of rancid kippers. It was lukewarm and the plates upon which it was served, after the baron had carved, were stone cold.

The Baron didn't mind the way in which we were picking at our food.

"All the more for those who like it," he averred, belching heartily. Then, "They don't send the real men into Space these days."

"We find your food," said Alan carefully, "just a little rich."

"It'll take some getting used to," agreed our host.

"Indubitably," said Alan.

Bligh glared at him suspiciously from under heavy brows. He snarled, "Cut out the fancy words, Cap'n. Old Granpop said that he never did like big ship officers with their airs and graces, and I think the old guy was right. Since you don't like our grub, suppose we get down to business."

"As you please," said Alan.

"Mabel!" ordered the Baron, "bring in Old Bart's chest!"

"It's heavy!" protested the girl.

"Then get one of the other lazy whelps to help you. Get half

a dozen of them!" To us he said, "This castle's crawling with good-for-nothing trollops." And to Veronica, "It needs a real Baroness."

She said nothing, looked down at the almost untouched mess on her plate.

"George," said Alan, "get the Manifest out of your case so that Baron Bligh can see what's in the cargo."

"Don't bother yourself," Bligh told me.

Four of the women came in, carrying between them a great chest. *Vegan stonewood*, I thought. *It must be heavy*. They dropped it with a crash as the Baron yelled, "Careful, you stupid cows!" One of them helped the Baron out of his chair, another of them fumbled with the catch of the lid and threw it open as her master approached.

Bligh plunged a thick arm into the depths of the chest. His hairy hand came up with a sheaf of transparencies—thin, crystal-clear sheets on which glittered little points of light, astronomical symbols. "Charts, Cap'n," he shouted. "Charts—from here to any damn place in the Galaxy! What'll ye pay?"

"The Manifest . . ." began Alan.

"To hell with your Manifest! Can you give me weapons?"

"No," said Alan.

"Then what have you got? The usual cargo—silks and satins and the like. And what use are silks and satins if you've nobody to put 'em on?" He gestured towards the women. "D'y'e think I'd waste a rag of decent cloth on these drabs?"

"Then what do you want?"

He leered. "The sort of thing that's worth putting silks and satins on—and worth taking them off."

"Unspeakable," said Alan. Then, more loudly, "Impossible!"

Veronica said wonderingly, "You mean that . . . That makes me happier. Is it because you regard me as a woman, and not as . . ." She paused. "But do you regard me as . . . Veronica?"

He said sharply, "Don't ask me that!"

She pressed him relentlessly. "And if these old charts are of value, and if with their aid you can find your way home, will you keep me?"

He muttered, "You know me. You know how it is. You know how I have been faithful, how I must be faithful. But you'll make out all right . . ."

"Then does it matter where?" she asked. "Couldn't it be here, as well as on your planet?" She went on, softly, "I wouldn't be doing this if it wasn't for what you said at first. But I am doing it, and don't try to stop me."

"Veronica!"

She turned from him, saying, "Baron Bligh, let Captain Kemp see the charts. If they are of value to him, you have your Baroness . . ."

The women glared at her with dull hatred.

CHAPTER 18

TIME is relative.

Objectively, the voyage from the pirate's lair did not take long. Subjectively it should not have taken long; we had plenty to occupy our time; we had to work hard and continuously to make the necessary modifications to those almost hopelessly out-of-date star charts.

Subjectively it should not have taken long, but it did. We missed Veronica—Old Jim, Dudley and myself. We missed her, and we hated Alan for having let her go, and we hated ourselves for having let Alan barter her for a handful of archaic charts. The atmosphere in the ship was strained and tense, all the more so since the three of us had made it clear to our Captain that we were withdrawing from the enterprise as soon as we grounded at Port Farewell.

The tension eased slightly when, at long last the world of Faraway loomed huge in our viewports. Alan was happy now that he was home, or almost

home, with the bright lights of Port Farewell a luminous blur against the darkness of the night side of the planet, with the familiar voice of Captain Wallis, the Port Master, crackling from the transceiver and telling us to land at will.

We came in on Ehrenhaft Drive, hitting the atmosphere at a shallow angle, the first, few molecules of Faraway's gaseous envelope setting up a thin, high keening as they rushed past and around every irregularity of our hull. We came in, and short blasts from our auxiliary rockets turned us so that we were stern down to the still distant surface.

It was reaction drive then, the gingerly descent down the long column of incandescence, the sort of landing for which the ship had never been designed—but the sort of landing that, with a master hand at the controls, she was quite capable of making . . .

. . . until the propellant pump stripped its blades.

Kemp did not hesitate.

"Take over, Dudley," he snapped. "You're as good a rocket pilot as I am. George! Tell Jim to get the manual pump working. Tell him I'll be right down."

We fell.

How far we fell, I cannot say. All I know is this—the dark globe below us was expanding with terrifying rapidity. Then,

suddenly, the rockets coughed twice, coughed a third time and broke into a full throated roar. That was when old Jim Larsen came into Control. "Alan chased me out!" he complained. "He wants all hands in the safest part of the ship. I left the damn fool in the engineroom, sweating away at the hand pump!"

We fell, but under control. Dudley used rocket power sparingly. His technique was a sound one in the circumstances—the use of maximum braking blast at almost the last moment. It should have worked. It would have worked with new, or almost new rocket motors. But the strain on the already cracked firing chambers was too great and the main venturi gave up just when it should have been our tower of strength, and for the second and last time in her life *Lucky Lady* crashed disastrously.

The emergency organization at Port Farewell is efficient.

I have a faint memory of screaming sirens, of great blades slicing through our shell plating as though it were paper, of willing hands dragging old Jim, Dudley and myself from the wreckage. Rather to my own surprise—and in spite of all attempts to restrain me—I was able to stand up, to stagger towards the crumpled stern. Somebody was asking me, "How many

of a crew have you? Where are the others?"

"Just one more," I told him. "The Captain. In the engine-room."

They got Alan out. He was badly cut and burned, and there were bones broken, but he was conscious. "George," he said faintly, "Veronica . . . Tell Veronica . . ." Then, "Is she here?"

"No."

"Then . . . Ring her. Tell her I'm . . . alive . . ."

They carried him off and somehow forgot about me. I wandered into the administration building, went to the nearest telephone. I didn't need to look up the number. I pressed the correct buttons, waited. The little screen above the instrument remained dark and there was that most desolate of all sounds, the ringing of a telephone bell in an empty house. I checked the number in the book, found that my memory had not been faulty, then tried again, fruitlessly.

I remembered, as one does remember comparatively trivial things in times of crisis, that there was money, Rim Worlds currency, in my pocket. I wandered out of the office to the cab rank. There were a dozen ground cars there and I got into the first one, giving the driven Alan's address.

He was one of those talkative cabbies.

He said, "Seems to have been a crash at the port. I could see the ship coming in. A damn' fool who handles a ship like that isn't fit to be in charge of a kiddy car, let alone a starwagon . . ."

He said, "Did you see the crash, mister?"

He said, "Any idea what ship it was, mister?"

He said, at last, "You're here, mister. And thanks for the scintillating conversation."

I got out, paid him and ran up the short drive to the front door. The house was in darkness. Even so, I rang the bell. Them I hammered on the door. Then I rang the bell again.

I was aware that a woman was looking at me over the low hedge that divided Alan's garden from the neighbouring property.

She asked, "Were you wanting Mrs. Kemp?"

I said, "Yes. Have you any idea where she is? When she'll be back?"

"I've no idea," she told me. "Earth, maybe. Or Caribbean. But she won't be back."

I reached across the hedge and grabbed her shoulder. I think that I must have shaken her. She squealed indignantly, "Keep your hands to yourself, young man!" She looked at me closely in the dim light. "You're not Mr. Kemp. What's it to you where she is?"

"I'm his friend. He was badly hurt in the crash out at the

spaceport. I have to tell his wife . . ."

"She's gone," she told me with gloomy satisfaction. "Weeks ago. There was a big ship in—*Aeriel* was her name. No, not the Shakespearian Lines *Aeriel*—this one was one of the Trans-Galactic Clippers, a cruise. There was this man from the *Aeriel*—one of the passengers. He and Mrs. Kemp seemed to be old friends. Can't say that I altogether blame her; he was tall, goodlooking, pots of money . . ."

"Has she gone?" I yelled.

"Yes, she's gone, as I've been trying to tell you for the last half hour. And don't shout at me, young man!"

The surgeons and the plastic surgeons patched Alan Kemp up very nicely.

But neither the surgeons nor the psychiatrists, for all their fancy jargon, can mend a broken dream.

CHAPTER 20

SO that was the end of the dream.

Lucky Lady was a total loss, worth only her value in scrap. And she was not insured. She had brought us nothing in the way of riches—unless you count experience as riches, and some sorts of experience should be chalked up on the debit side rather than on the credit side.

Rim Runners—who are always short of officers—took us all back with no loss of rank. They did not, however, have Alan's services for long. He made an excellent physical recovery from his injuries but he was accident prone. A few weeks after his return to service he walked under a conveyor belt that he could just as easily have walked around, and a heavy slab of zinc fell from the belt and killed him instantly.

Dudley Hill I run into now and again—he is now Second Mate of *Rimtiger*—and old Jim Larson and I are serving together in *Rimlion*. *Rimlion* is running the Eastern Circuit. She was on Tharn not so long ago, and Jim and I went ashore together to partake of the local brew.

He was in a talkative mood, was old Jim. He was in a philosophical mood and, like most of his cloth, like practically all of those who work with the Mann-schenn Drive and are exposed to its time twisting fields, has weird ideas about Space and Time.

"Out on the Rim," he said seriously, "and especially on worlds such as this, that human beings have reached only within the past few decades, the Barrier must be very thin . . ."

"What Barrier?" I asked.

"The Barrier between the alternative time tracks, the divergent world lines . . ."

"Surely you don't believe . . ."

"Why not?" He paused, losing interest in his dimensional theories. "That girl," he told me, pointing with pipestem at a redhead who had just come in, "reminds me of Sally . . ." He caught her eye. She smiled, started to make her way towards our table.

I left him then. I'm not prudish, but the people of Tharn, although humanoid, are not human. So I left him to it and walked slowly back, along the rough dirt road, to the spaceport.

The landing area was the way that it usually is, a pattern of bright lights and deep shadows. Even so, I cannot see how this pattern can have produced the illusion of a peg-top shaped hull, balanced upon its pointed end. It cannot possibly have produced the illusion of two figures, Captain and Captain's lady, walking, arm in arm, up the ramp to the yellow lit circle of the airlock. And the most impossible illusion of all, perhaps, was that of the man who stood there to meet them. I saw his face dimly as I approached, just before the odd scene winked out into nothingness.

It was my own.

When the dreamer dies, what of the dream?

THE END

The ULTIMATE INJECTION

By SAM McCLATCHIE, M.D.

For centuries man has searched for the perfect contraceptive. Now a new scientific discovery holds out the promise of a solution. But what is a scientific "solution" is not always an answer to comply with the needs of Social Man.

THE KIND-FACED older woman in the neat nurse's uniform opened the door of the gynecologist's office.

"The young man and his wife are still waiting, Doctor," she said. "Will you see them now?"

"Oh Lord! Yes, I suppose so," the grey-haired doctor said reluctantly. "Might as well get it over with."

The girl was pale and appre-

hensive as she seated herself beside the doctor's desk. Her husband stood close by, studying the specialist's impassive face for a sign of encouragement.

"Have you found out anything, Doctor?" he asked.

"Yes, I think so," Dr. Smith said as he leafed through the reports in front of him. "Your physical examination shows no abnormalities whatsoever and

you have a high normal sperm count. Mrs. Jones is also in excellent physical condition and there appears to be no mechanical obstruction in her passages. The mucus of these passages is normal and permits free entry of sperm in our tests. You have followed my directions for the most likely periods to have intercourse and still Mrs. Jones has not become pregnant. There is only one possibility I can think of and it has shown up on the new blood tests we took during your last visit." The doctor paused and took up a laboratory report. "I believe the reason you are not having children is because your wife's blood is producing an antibody against your sperm. In some way we don't yet understand, this prevents her from conceiving a child."

"You mean I'm sterile?" Mrs. Jones asked.

"Not necessarily so," the physician replied. "I would say neither of you is sterile. In fact you might be able to have children with other partners, but together?" he shook his head, "at the moment it is not possible."

"What can we do about it?" Mr. Jones asked.

"It may be possible to desensitize Mrs. Jones by a series of injections, as we try to do with the allergies such as asthma and hay fever. I think we should try it."

"Oh, Doctor, I hope we can." Mrs. Jones said. "We want to have a baby so much."

"Well, you come and see me next week and we'll start the treatments," said Dr. Smith as he saw them to the door.

The next patient was a woman in her early thirties, thin and tired, her sagging face and figure indicative of too many children, too fast. The nurse came in with her.

"You're in fair shape, Mrs. Doe," Dr. Smith said as he finished the examination. "What was this . . . the seventh?"

"No, Doctor, the eighth. And I hope it's the last."

"Well, I think it can be, if you want it that way."

"I don't want no operation, Doctor. We can't afford it. And my husband thinks he'll lose his manhood if you operate on him."

"He wouldn't . . . but there's no need for that. All it requires is for you to have a vaccination, like smallpox you know, and you'll have no more babies."

"You're kiddin' Doc! Aren't you? Oh, if only it was that easy!"

IT MAY BE that easy if new work reported at the 109th annual meeting of the American Medical Association, in June of this year, proves applicable to

humans. Studies of three thousand men and women by an international team of medical experts in India, Holland and America revealed that one of the causes of infertility could be an antigen-antibody reaction. Some infertile women showed significant amounts of antibodies against sperm in their blood as compared with the fertile females who had little or none. Experiments with animals, by the same group in California, led them to conclude that the antigen-antibody reaction can interfere with conception. The studies were mainly directed to probing the causes of infertility but they raise a most interesting question in our congested world. Can we use the antigen-antibody reaction to prohibit conception, or to control it, as desired?

According to Webster's dictionary, an antigen is a substance which, when introduced into the body, causes the formation of an antibody. Fortunately for us, not every substance will cause such a reaction. Proteins will, and some complex sugars. The method of insertion causes differences in the reactions obtained. Usually in experimental work the antigens are injected, but in nature they can be inhaled into the respiratory system, be swallowed in the food, get through the skin or, as must

be the case with sperm, be absorbed somehow through the delicate membranes of the female passages. Once the antigen is absorbed, the body sets to work to produce an antibody. It too is a complex substance, a protein or at least associated with proteins. If we imagine the antigen to be part of an intricate jigsaw puzzle in which certain patterns may occur only once and others are repeated, then we can think of the antibody as another part of the puzzle, so arranged that it fits into the holes or curves of the antigen. Like a custom-tailored suit, some of these antibodies appear to be very specific, fitting only the one antigen, or part of it. Others are "ready-made" and will fit well enough to neutralize a number of different antigens. To confuse the picture still more, one antigen may stimulate production of many antibodies, which appear in our tests to be distinct entities.

Combination of antibody with antigen prevents the latter from hooking up elsewhere in the body with possibly disastrous effects to the individual. For example a virus, which is protein and therefore a good antigen, will get into the cells of the body, combine with their constituents and prevent them from functioning normally, or even kill them. If the body has the

proper antibodies, or can make them in time, they combine with the viruses in various ways and so prevent the damage.

NOW THIS IS FINE with disease germs but it isn't so good when Aunt Hattie's cat comes in and your sensitized nose reacts to his fur with a violent attack of sneezing. It's even worse if your wife's favorite face powder makes you break out in hives. These are fairly common occurrences, caused by antigens which produce local rather than general reactions. Other antigens are the plant pollens which cause the eye irritation of hay fever and the spasm of the bronchial muscles in asthma. But not all antigen-antibody combinations cause severe reactions. It may be that sperm, acting as an antigen, sets up some such local response so that union with the egg is prevented. Neither the man nor his wife would be aware of such a reaction and would wonder why they remained childless.

It seems simple enough then, to produce a vaccine made up of sperm, inject it or introduce it into the female and have her produce antibodies that prevent conception. Alas, there's a lot more to it. Animal tissues introduced into other animals of the same species, that is, rat to rat or man to man, do not necessarily

cause antibody formation. It seems to depend on whether or not there is sufficient difference between the injected antigen and the same tissue in the animal receiving the injection. Thus people of compatible blood types can exchange blood without any harmful amount of antibody formation. Others, of incompatible types, would become seriously ill. Some may give blood to certain others, but not receive it, and so on. Identical twins have tissues so similar that they may even exchange skin. Some tissues are not antibody formers which is why corneal transplants survive in another person's eye. How it will be with sperm we don't yet know. The female may accept sperm from one individual and form antibodies against that from another. If we do succeed in making a vaccine, it may turn out that the rejection is a very specific one but more likely we will find sperm types, like blood types, common to large groups of people.

WELL, as Mr. Jones said, "What can we do about it?" The first application of these discoveries would seem to be in the detection of the cause of infertility. Correction might be possible by desensitization, as the doctor pointed out to Mrs. Jones. But the really important

application in this overcrowded world of ours is in the field of contraception. What of the couples who have their families and now want to live a normal sexual life without the use of mechanical devices, chemical applications or rhythm systems? Since they already have children, the sperm of the husband is not antigenic to his wife. Something must be done to change this. As we said before, some tissues injected into the same species of animal do not cause antibody formation. However it is well known that by adding certain materials, or treating the tissue in certain ways, antibody formation can be obtained. This antibody, once formed, will often react against the original untreated antigen. In other words, the wife could be sensitized against her husband's sperm by a vaccine made in this way. Whether this would result in sterility remains to be seen. It is by no means certain, as yet, that formation of sperm antibody and failure to conceive are synonymous, any more than cigarette smoking and lung cancer are. One way of beating the problem might be to inject treated sperm into the husband. This could set up an auto-antibody reaction which would result in his body destroying his own sperm. Thus the male, as Shakespeare might

have put it, is hoist with his own petard.

Now this is fine, if you don't look too far ahead. Joe Doaks is probably sterile and Mrs. Doaks is sensitive to his sperm, if he has any left. But what if they divorce? Joe is through as a producer. The ex-Mrs. Doaks may find that she has been sensitized not only to Joe's sperm but to that of all men of Joe's sperm type, or even to all men. This would raise quite a problem in the selection of new partners, if she wanted to have a family. Desensitization of either Joe or Mrs. Doaks is not likely to be easy or permanent if our experience with allergies is a criterion. Ask any asthmatic!

THREE'S another pitfall. Vaccines, while effective, are not necessarily 100% so, either through poor fitting of that jigsaw puzzle I mentioned, faulty material or poor technique. They also must be renewed at intervals or the person be exposed to the disease against which they protect, to keep the antibody mechanism in good working order. Of course, as long as the unsterile husband performs his sexual duties properly, exposure should be sufficient to renew the antibody level. But if the vaccine were faulty, some irate parents might want to sue the doctor for sup-

port of an unexpected child.

A less permanent type of contraception could perhaps be obtained by using concentrated antibody serum as we do in protecting children against measles. At present this seems much more troublesome than the usual contraceptive methods.

Recent reports in the medical literature are hopeful about the success of an oral contraceptive, related to the female hormones. This appears to be effective as long as it is taken, with fertility returning after discontinuing the drug. For those who can rely on their memory to take the daily doses and who still want to retain the possibility of having children, it seems to offer a less drastic method than a contraceptive vaccine, provided the drug has no long-term harmful effects. It may require medical supervision however and it undoubtedly would be more expensive than a vaccine.

There is one interesting sidelight to the question. Use of this type of drug may help prevent female cancers. There is some evidence pointing to such a conclusion. It is much too early even to guess about this. The effect of a vaccine on such cancers might be surprising. Some medical authorities believe that male secretions may contribute to the incidence of cancer of the mouth of the uterus, which is

rare in virgins. Antibodies could possibly nullify this effect, if true. Also it seems that such cancers are more common in women with many children. Reduction of the birth rate might help here. It will take many more years of research to provide the answers.

ASIDE from the purely medical implications discussed above this new idea raises tremendous sociological possibilities and problems. There are some interesting medicolegal angles. If sperm can be divided into various types by the use of antigen-antibody techniques, it might be possible to study specimens taken from an alleged case of rape and determine whether or not they could belong to the accused male. Antibody in the female's blood might help to decide whether or not she had had previous intercourse with men of certain sperm types, since it takes time for antibodies to show up in the blood. This would help dispose of a virginity claim made at the time of the act. The question whether or not this particular act was completed with the consent of the woman would unfortunately still remain.

Similar determinations might prove useful in paternity suits, presuming that sperm types, like blood types, follow the Mendelian laws of heredity.

Certainly, if some sperm cause formation of antibodies and others do not, a fact that should be easy to determine in re-married women, there must be differences which will be measurable. Add such differences to the evidence now available from blood typing, eye color and other characteristics and we might be able, eventually, to pinpoint the real parents of a disputed child.

To the individual in the immediate future, the obvious use of the antigen-antibody reaction would be in compatibility testing. For quite some time, various governments have insisted on blood tests for venereal disease before marriage. Many doctors, when given the opportunity, also like to have blood typing done, especially for the RH factors, so that young couples may be aware of incompatible blood types, if they exist. A logical extension of this procedure would be to see if any antibodies against sperm were present in the young woman's blood. This might raise a touchy moral point, but it could turn out that non-specific antibodies (the "ready-made" ones) exist even in virgins. There has not been enough investigation in this field as yet to draw conclusions. It would seem good sense to find out if incompatibility did exist. Whether or not such cou-

ples should marry and risk future tragedy is a personal question in our day.

FOR PEOPLE in general, the possession of a contraceptive vaccine would raise other possibilities. Naturally we think of the millions in India, short of food, swamped with children and unable to afford even the simplest contraceptive device. Here, we say, is the answer. Let them have the vaccine free after having two or three children. Surely now the population will be stabilized! But the sex of a child is important in India. There must be sons. Disease, even today, carries off many born in America. The Hindu family is not likely to accept any procedure that leads to permanent sterility. Eventually something will have to be done to curb the population growth, which eats up the gains won by modern methods of agriculture and industry as fast as they are introduced.

The Chinese on Formosa are much like the Indians in their attitudes to family. A man must have sons to take care of him in his old age and pay proper respects to the ancestors. On the mainland of China, where the Communists want soldiers and workers so they can overtake the decadent capitalist countries, the vaccine would be quite un-

popular with the leaders at least for the next few years. They did start a birth control program a few years ago but it is not now part of their policy.

I am of the opinion that a contraceptive vaccine probably would not be accepted today by those in Asia and Africa who most need it. As for the western countries, those with the greatest population problems, such as Italy and Latin America, are predominantly Catholic. No one knows, of course, what the decision of the church would be, but I seriously doubt if this method of contraception would be considered among the natural methods now allowed.

In North America and the Protestant western countries, the idea of a contraceptive vaccine will probably gain quick acceptance . . . for the other fellow! There has been much political maneuvering over the birth control principle already, with President Eisenhower refusing to offer the information to the so-called under-privileged countries and others urging that such countries be told to get their people under control or face loss of American assistance. But the first proposal to vaccinate, against his will, anyone who cannot support his family and who cannot or will not limit its size, will raise a storm of protest. Our way is usually to give

such people assistance and then stand by and watch them produce more of the same. There will have to be a general revulsion of feeling against overcrowded cities and highways; dislike of multi-story apartment living; resentment at the legal and moral restriction of freedom inevitable in an overcrowded society; perhaps even real shortages of goods and the end of our natural resources before the average American will submit to interference with his procreative powers.

IT MIGHT be possible, but not in our generation, to put a tax on families over a certain size, rather than reward them with exemptions. That might bring a few bankrupt fathers and mothers to their senses . . . and to the vaccine. At the moment, a man's home is his castle and how many kids he has climbing the towers is his own business.

If artificial insemination becomes widely accepted, both in the courts and by the churches, and especially if sperm from eminent men is collected and stored for future use, as has been proposed, antigen-antibody studies will help greatly in determining which of the females selected for this special honor has the better chance of conception. I can foresee, some time hence, a national competi-

tion for a "Mrs. America to be" in which the fortunate winner will be given the opportunity to produce a future genius, all expenses of course being paid by the baby food company that sponsors it.

Let us carry this thought on into a world of the future. I am presuming that, several generations from now, there has been no major war and extreme over-crowding is the problem of the day. Struggling desperately with the task, the United Nations have finally come together and brought forth a "Bill of Survival Rights", backed by the power of the United Nations countries, creeds and races. Vaccination against conception, long banned in many areas, is now legal and in fact compulsory.

To preserve the rights of the individual, all persons, except those obviously unfit by reason of severe hereditary, mental or physical defect, would be allowed to reproduce themselves, that is, each couple might have two children. After achieving this, most would be vaccinated. Certain males of superior qualifications, if married to equally acceptable wives, would be allowed to have large families. If their wives were unacceptable, artificial insemination from these males into suitable women, (probably with consent of

their unsuitable husbands, with some sort of compensation for their wounded pride) might be done. Stored semen from great men of the past could be used in specially selected cases. An extension of this idea, which would infringe more on our cherished right of selection, would be to refuse marriage licenses to those considered unsuitable, or give them conditional licenses in which the number of children allowed, either natural or by insemination, would be part of the contract. One further advance in knowledge, the transplantation of ova from one female to another, and possibly the storage of ova, would enable us to preserve the characteristics of desirable women as well. Such transplants have already been done in animals. The effect on the ugly duck mother of producing a swan I leave to the psychiatrists and the authors of new children's fairy tales.

The criteria of selection would be bound to cause bitter argument and only the extreme urgency of the population problem could force nations to consider such procedures. I doubt if it would be done without at least minor wars and revolts by religious, ideological and ethnic groups. It might, in fact, bring on the war for survival that has been simmering since the "Cold War" began in the Fifties. At

the very least, to get into a favored class would be as desirable a goal as success in business is today and the possibilities for graft, corruption and nepotism at least as great.

WHETHER or not vaccination against conception would lead to more immorality is debatable. Many oldsters are convinced that the freedom allowed today by our customs, our cars and our contraceptives have made illicit intercourse a common event by comparison with Victorian times. By comparison with bawdier eras we probably seem puritanical. Certainly the fear of conception has always been a deterrent and its complete removal will push a few sinners over the edge. I doubt if it will contribute as much to delinquency as the psychological

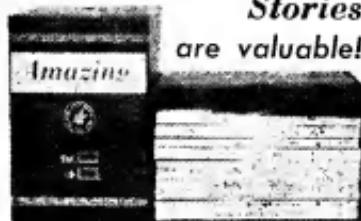
pressures applied by our advertisers, who constantly use sex to sell their wares. The vaccine will only facilitate what the girlie magazines start. At least we might hope for a drop in the number of illegitimate children.

Those of us who have no religious or ideological objections to various forms of contraception will certainly be interested in what comes out of future research in the field. But you, with your lovely wife and two fine young children, you who pride yourself on your love of science and your interest in modern problems and their solutions . . . I put it to you as your doctor, right now: "Are you ready for that vaccine? Step up and bare your arm!"

How many of you will be in the lineup?

THE END

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The MAN who SAW the FUTURE

By EDMOND HAMILTON

Introduction by Sam Moskowitz

WRITERS frequently get "typed" just as do moving picture stars. This fate befell Edmond Hamilton, the old "World Saver," a name that has stuck to him through thick and thin for going on 35 years. His first story, The Monster God of Mamurth WEIRD TALES, Aug., 1926, dealt with a giant invisible spider that roamed the African desert. It rated second only in popularity to The Woman of the Wood by A. Merritt which ran in the same issue. This was an auspicious start, and he might have become a serious writer of fantasy except that his second story, Across Space, dealing with an alien race pulling Mars from its orbit and

hurling it at earth WEIRD TALES, Sept., Oct., Nov., 1926, struck such a responsive chord in the readership of the magazine that the editor demanded more of the same and plenty of them.

So for the next four years Edmond Hamilton repeatedly saved the earth from every conceivable sort of disaster in a series of "epics" with titles like The Atomic Conquerors, Moon Menace, Time Raider, Dimension Terror, Crashing Suns, Star Stealers, Abysmal Invaders, Comet Drivers, The Sun People and dozens of others including The Comet Doom, The Other Side of the Moon, Locked Worlds and The Universe Wreckers for

AMAZING STORIES and AMAZING STORIES QUARTERLY.

The plot was always the same. Some frightful menace, usually from out of space but sometimes from out of another dimension, out of time, from the bowels of the earth or even from the sub-microscopic would threaten to conquer or destroy the earth. After a thrilling battle, Edmond Hamilton ingeniously managed to save it.

He was selling. He was popular. But was it art?

The Man Who Saw the Future should have been titled The Revolt of Edmond Hamilton, or The Author Who Saved Himself. It was his attempt to prove that he could write something besides world-saving melodramas. The result was a simple story, simply told, with its entire effectiveness pivoting on the competency of its relation.

The poignancy of the tale captured the hearts of the readers

and indicated that Edmond Hamilton was capable of something a bit more artistic in the field of science fiction. He went on from there to vindicate himself completely with Conquest of Two Worlds, WONDER STORIES, Feb., 1932, one of the most effective attacks against the evils of colonialism ever written. The following year his novelette The Island of Unreason, WONDER STORIES, May, 1933, was selected as the best story of the year by the Jules Verne Prize Club, an organization sponsored by one of AMAZING STORIES' former editors Raymond A. Palmer.

Though he would never lose his well-deserved appellation of "World Saver," with his decision to write The Man Who Saw the Future, Edmond Hamilton set himself on the road to regained self respect and proved to the science fiction world that he was more than a formula-writing hack.

JEAN DE MARSELAIT, Inquisitor Extraordinary of the King of France, raised his head from the parchments that littered the crude desk at which he sat. His glance shifted along the long stone-walled, torchlit room to the file of mail-clad soldiers who stood like steel statues by its door. A word from him and two of them sprang forward.

"You may bring in the prisoner," he said.

The two disappeared through the door and in moments more came a clang of opening bolts and grating of heavy hinges from somewhere in the building. Then the clang of the returning soldiers, and they entered the room with another man between them whose hands were fettered.



Illustrated
by MOREY

He was a straight figure, and was dressed in drab tunic and hose. His dark hair was long and straight, and his face held a dreaming

strength, altogether different from the battered visages of the soldiers or the changeless mask of the Inquisitor. The latter regarded the

prisoner for a moment, and then lifted one of the parchments from before him and read from it in a smooth, clear voice.

"Henri Lothiere, apothecary's assistant of Paris," he read, "is charged in this year of our lord one thousand four hundred and forty-four with offending against God and the king by committing the crime of sorcery."

The prisoner spoke for the first time, his voice low but steady. "I am no sorcerer, sire."

Jean de Marselait read calmly on from the parchment. "It is stated by many witnesses that for long that part of Paris, called Nanley by some, has been troubled by works of the devil. Ever and anon great claps of thunder have been heard issuing from an open field there without visible cause. They were evidently caused by a sorcerer of power since even exorcists could not halt them.

"It is attested by many that the accused, Henri Lothiere, did in spite of the known diabolical nature of the thing, spend much time at the field in question. It is also attested that the said Henri Lothiere did state that in his opinion the thunderclaps were not of diabolical origin, and that if they were studied, their cause might be discovered.

"It being suspected from this that Henri Lothiere was himself the sorcerer causing the thunder-

claps, he was watched, and on the third day of June was seen to go in the early morning to the unholy spot with certain instruments. There he was observed going through strange and diabolical conjurations, when there came suddenly another thunder-clap and the said Henri Lothiere did vanish entirely from view in that moment. This fact is attested beyond all doubt.

"The news spreading, many hundreds watched around the field during that day. Upon that night before midnight, another thunderclap was heard and the said Henri Lothiere was seen by these hundreds to appear at the field's center as swiftly and as strangely as he had vanished. The fear-stricken hundreds around the field heard him tell them how, by diabolical power, he had gone for hundreds of years into the future, a thing surely possible only to the devil and his minions, and heard him tell other blasphemies before they seized him and brought him to the Inquisitor of the King, praying that he be burned and his work of sorcery thus halted.

"Therefore, Henri Lothiere, since you were seen to vanish and to reappear as only the servants of the evil one might do, and were heard by many to utter the blasphemies mentioned, I must adjudge you a sorcerer with the penalty of death by fire. If any-

thing there be that you can advance in palliation of your black offense, however, you may now do so before final sentence is passed upon you."

Jean de Marselait laid down the parchment, and raised his eyes to the prisoner. The latter looked round him quickly for a moment, a half-glimpsed panic for an instant in his eyes, then seemed to steady.

"Sire, I cannot change the sentence you will pass upon me," he said quietly, "yet do I wish well to relate once, what happened to me and what I saw. Is it permitted me to tell that from first to last?"

The Inquisitor's head bent, and Henri Lothiere spoke, his voice gaining in strength and fervor as he continued.

SIRE, I, Henri Lothiere, am no sorcerer but a simple apothecary's assistant. It was always my nature, from earliest youth, to desire to delve into matters unknown to men; the secrets of the earth and sea and sky, the knowledge hidden from us. I knew well that this was wicked, that the Church teaches all we need to know and that heaven frowns when we pry into its mysteries, but so strong was my desire to know, that many times I concerned myself with matters forbidden.

"I had sought to know the na-

ture of the lightning, and the manner of flight of the birds, and the way in which fishes are able to live beneath the waters, and the mystery of the stars. So when these thunderclaps began to be heard in the part of Paris in which I lived, I did not fear them so much as my neighbors. I was eager to learn only what was causing them, for it seemed to me that their cause might be learned.

"So I began to go to that field from which they issued, to study them. I waited in it and twice I heard the great thunderclaps myself. I thought they came from near the field's center, and I studied that place. But I could see nothing there that was causing them. I dug in the ground, I looked up for hours into the sky, but there was nothing. And still, at intervals, the thunderclaps sounded.

"I still kept going to the field, though I knew that many of my neighbors whispered that I was engaged in sorcery. Upon that morning of the third day of June, it had occurred to me to take certain instruments, such as loadstones, to the field, to see whether anything might be learned with them. I went, a few superstitious ones following me at a distance. I reached the field's center, and started the examinations I had planned. Then came suddenly another thunderclap

and with it I passed from the sight of those who had followed and were watching, vanished from view.

"Sire, I cannot well describe what happened in that moment. I heard the thunderclap come as though from all the air around me, stunning my ears with its terrible burst of sound. And at the same moment that I heard it, I was buffeted as though by awful winds and seemed falling downward through terrific depths. Then through the hellish uproar, I felt myself bumping upon a hard surface, and the sounds quickly ceased from about me.

"I had involuntarily closed my eyes at the great thunderclap, but now, slowly, I opened them. I looked around me, first in stupefaction, and then in growing amazement. For I was not in that familiar field at all, Sire, that I had been in a moment before. I was in a room, lying upon its floor, and it was such a room as I had never seen before.

"Its walls were smooth and white and gleaming. There were windows in the walls, and they were closed with sheets of glass so smooth and clear that one seemed looking through a clear opening rather than through glass. The floor was of stone, smooth and seamless as though carven from one great rock, yet seeming not, in some way, to be

stone at all. There was a great circle of smooth metal inset in it, and it was on it that I was lying.

"All around the room were many great things the like of which I had never seen. Some seemed of black metal, seemed contrivances or machines of some sort. Black cords or wire connected them to each other and from part of them came a humming sound that did not stop. Others had glass tubes fixed on the front of them, and there were square black plates on which were many shining little handles and buttons.

There was a sound of voices, and I turned to find that two men were bending over me. They were men like myself, yet they were at the same time like no men I had ever met! One was white-bearded and the other plump and bare of face. Neither of them wore cloak or tunic or hose. Instead they wore loose and straight-hanging garments of cloth.

"They were both greatly excited, it seemed, and were talking to each other as they bent over me. I caught a word or two of their speech in a moment, and found it was French they were talking. But it was not the French I knew, being so strange and with so many new words as to be almost a different language. I could understand the drift, though, of what they were saying.

"We have succeeded!" the plump one was shouting excitedly. "We've brought someone through at last!"

"They will never believe it," the other replied. "They'll say it was faked."

"Nonsense!" cried the first. "We can do it again, Rastin; we can show them before their own eyes!"

They bent toward me, seeing me staring at them.

"Where are you from?" shouted the plump-faced one. "What time—what year—what century?"

"He doesn't understand, Thicourt," muttered the white-bearded one. "What year is this now, my friend?" he asked me.

"I found voice to answer. 'Surely, sirs, whoever you be, you know that this is the year fourteen hundred and forty-four,' I said.

"That set them off again into a babble of excited talk, of which I could make out only a word here and there. They lifted me up, seeing how sick and weak I felt, and seated me in a strange, but very comfortable chair. I felt dazed. The two were still talking excitedly, but finally the white-bearded one, Rastin, turned to me. He spoke to me, very slowly, so that I understood him clearly, and he asked me my name. I told him.

"'Henri Lothiere,' he repeat-

ed. 'Well, Henri you must try to understand. You are not now in the year 1444. You are five hundred years in the future, or what would seem to you the future. This is the year 1944.'

"And Rastin and I have jerked you out of your own time across five solid centuries," said the other, grinning.

"I looked from one to the other. 'Messieurs,' I pleaded, and Rastin shook his head.

"He does not believe," he said to the other. Then to me, "Where were you just before you found yourself here, Henri?" he asked.

"In a field at the outskirts of Paris," I said.

"Well, look from that window and see if you still believe yourself in your 15th century Paris."

I WENT to the window. I looked out. Mother of God, what a sight before my eyes! The familiar gray little houses, the open fields behind them, the saunterers in the dirt streets—all these were gone and it was a new and terrible city that lay about me! Its broad streets were of stone and great buildings of many levels rose on either side of them. Great numbers of people dressed like the two beside me, moved in the streets and also strange vehicles or carriages, undrawn by horse or ox, that rushed to and fro at undreamed-of speed! I staggered back to the chair.

"'You believe now, Henri?' asked the white beard, Rastin, kindly enough, and I nodded weakly. My brain was whirling.

"He pointed to the circle of metal on the floor and the machines around the room. 'Those are what we used to jerk you from your own time to this one,' he said.

"'But how, sirs?' I asked. 'For the love of God, how is it that you can take me from one time to another? Have ye become gods or devils?'

"'Neither the one nor the other, Henri,' he answered. 'We are simply scientists, physicists—men who want to know as much as man can know and who spend our lives in seeking knowledge.'

"I felt my confidence returning. These were men such as I had dreamed might some day be. 'But what can you do with time?' I asked. 'Is not time a thing unalterable, unchanging?'

"Both shook their heads. 'No, Henri, it is not. But lately have our men of science found that out.'

"They went on to tell me of things that I could not understand. It seemed they were telling that their men of knowledge had found time to be a mere measurement, or dimension, just as length or breadth or thickness. They mentioned names with reverence that I had never heard—Einstein and De Sitter and Lor-

entz. I was in a maze at their words.

"They said that just as men use force to move or rotate matter from one point along the three known measurements to another, so might matter be rotated from one point in time, the fourth measurement, to another, if the right force were used. They said that their machines produced that force and applied it to the metal circle from five hundred years before to this time of theirs.

"They had tried it many times, they said, but nothing had been on the spot at that time and they had rotated nothing but the air above it from the one time to the other, and the reverse. I told them of the thunderclaps that had been heard at the spot in the field and that had made me curious. They said that they had been caused by the changing of the air above the spot from the one time to the other in their trials. I could not understand these things.

"They said then that I had happened to be on the spot when they had again turned on their force and so had been rotated out of my own time into theirs. They said that they had always hoped to get someone living from a distant time in that way, since such a man would be a proof to all the other men of knowledge of what they had been able to do.

"I could not comprehend, and they saw and told me not to fear, I was not fearful, but excited at the things that I saw around me. I asked of those things and Rastin and Thicourt laughed and explained some of them to me as best they could. Much they said that I did not understand but my eyes saw marvels in that room of which I had never dreamed.

"They showed me a thing like a small glass bottle with wires inside, and then told me to touch a button beneath it. I did so and the bottle shone with a brilliant light exceeding that of scores of candles. I shrank back, but they laughed, and when Rastin touched the button again, the light in the glass thing vanished. I saw that there were many of these things in the ceiling.

"They showed me also a rounded black object of metal with a wheel at the end. A belt ran around the wheel and around smaller wheels connected to many machines. They touched a lever on this object and a sound of humming came from it and the wheel turned very fast, turning all the machines with the belt. It turned faster than any man could ever have turned it, yet when they touched the lever again, its turning ceased. They said that it was the power of the lightning in the skies that they used to make the light and to turn that wheel!

"My brain reeled at the wonders that they showed. One took an instrument from the table that he held to his face, saying that he would summon the other scientists or men of knowledge to see their experiment that night. He spoke into the instrument as though to different men, and let me hear voices from it answering him! They said that the men who answered were leagues separated from him!

"I could not believe—and yet somehow I did believe! I was half-dazed with wonder and yet excited too. The white-bearded man, Rastin, saw that, and encouraged me. Then they brought a small box with an opening and placed a black disk on the box, and set it turning in some way. A woman's voice came from the opening of the box, slinging. I shuddered when they told me that the woman was one who had died years before. Could the dead speak thus?

HOW can I describe what I saw there? Another box or cabinet there was, with an opening also. I thought it was like that from which it had heard the dead woman singing, but they said it was different. They touched buttons on it and a voice came from it speaking in a tongue I knew not. They said that the man was speaking thousands of leagues from us, in a

strange land across the un-crossed western ocean, yet he seemed speaking by my side!

"They saw how dazed I was by these things, and gave me wine. At that I took heart, for wine, at least, was as it had always been.

"You will want to see Paris—the Paris of our time, Henri?" asked Rastin.

"But it is different—terrible—" I said.

"We'll take you," Thicourt said, "but first your clothes—"

"He got a long light coat that they had me put on, that covered my tunic and hose, and a hat of grotesque round shape that they put on my head. They led me then out of the building and into the street.

"I gazed astoundedly along that street. It had a raised walk at either side, on which many hundreds of people moved to and fro, all dressed in as strange a fashion. Many, like Rastin and Thicourt, seemed of gentle blood, yet, in spite of this, they did not wear a sword or even a dagger. There were no knights or squires, or priests or peasants. All seemed dressed much the same.

"Small lads ran to and fro selling what seemed sheets of very thin white parchment, many times folded and covered with lettering. Rastin said that these had written in them all things that had happened through all the world, even but hours before.

I said that to write even one of these sheets would take a clerk many days, but they said that the writing was done in some way very quickly by machines.

"In the broad stone street between the two raised walks were rushing back and forth the strange vehicles I had seen from the window. There was no animal pulling or pushing any one of them, yet they never halted their swift rush, and carried many people at unthinkable speed. Sometimes those who walked stepped before the rushing vehicles, and then from them came terrible warning snarls or moans that made the walkers draw back.

"One of the vehicles stood at the walk's edge before us, and we entered it and sat side by side on a soft leather seat. Thicourt sat behind a wheel on a post, with levers beside him. He touched these and a humming sound came from somewhere in the vehicle and then it too began to rush forward. Faster and faster along the street it went, yet neither of them seemed afraid.

"Many thousands of these vehicles were moving swiftly through the streets about us. We passed on, between great buildings and along wider streets, my eyes and ears numbed by what I saw about me. Then the buildings grew smaller, after we had gone for miles through them, and

we were passing through the city's outskirts. I could not believe, hardly, that it was Paris in which I was.

"We came to a great flat and open field outside the city and there Thicourt stopped and we got out of the vehicle. There were big buildings at the field's end, and I saw other vehicles rolling out of them across the field, ones different from any I had yet seen, with flat winglike projections on either side. They rolled out over the field very fast and then I cried out as I saw them rising from the ground into the air. Mother of God, they were flying! The men in them were flying!

"Rastin and Thicourt took me forward to the great buildings. They spoke to men there and one brought forward one of the winged cars. Rastin told me to get in, and though I was terribly afraid, there was too terrible a fascination that drew me in. Thicourt and Rastin entered after me, and we sat in seats with the other man. He had before him levers and buttons, while at the car's front was a great thing like a double-oar or paddle. A loud roaring came and that double-blade began to whirl so swiftly that I could not see it. Then the car rolled swiftly forward, bumping on the ground, and then ceased to bump. I looked down, then shuddered. The ground was

already far beneath! I too, was flying in the air!

"We swept upward at terrible speed, that increased steadily. The thunder of the car was terrific, and as the man at the levers changed their position, we curved around and over downward and upward as though birds. Rastin tried to explain to me how the car flew, but it was all too wonderful, and I could not understand. I only knew that a wild thrilling excitement held me, and that it were worth life and death to fly thus, if but for once, as I had always dreamed that men might some day do.

"Higher and higher we went. The earth lay far beneath and I saw now that Paris was indeed a mighty city, its vast mass of buildings stretching away almost to the horizons below us. A mighty city of the future that it had been given my eyes to look on!

"There were other winged cars darting to and fro in the air about us, and they said that many of these were starting or finishing journeys of hundreds of leagues in the air. Then I cried out as I saw a great shape coming nearer us in the air. It was many rods in length, tapering to a point at both ends, a vast ship sailing in the air! There were great cabins on its lower part and in them we glimpsed people gazing out, coming and going inside, dancing

even! They told me that vast ships of the air like this sailed to and fro for thousands of leagues with hundreds inside them.

"The huge vessel of the air passed us and then our winged car began to descend. It circled smoothly down to the field like a swooping bird, and, when we landed there, Rastin and Thicourt led me back to the ground-vehicle. It was late afternoon by then, the sun sinking westward, and darkness had descended by the time we rolled back into the great city.

"But in that city was not darkness! Lights were everywhere in it, flashing brilliant lights that shone from its mighty buildings and that blinked and burned and ran like water in great symbols upon the buildings above the streets. Their glare was like that of day! We stopped before a great building into which Rastin and Thicourt led me.

"It was vast inside and in it were many people in rows on rows of seats. I thought it a cathedral at first but saw soon that it was not. The wall at one end of it, toward which all in it were gazing, had on it pictures of people, great in size, and those pictures were moving as though themselves alive! And they were talking one to another, too, as though with living voices! I trembled. What magic!

"With Rastin and Thicourt in seats beside me, I watched the pictures enthralled. It was like looking through a great window into strange worlds. I saw the sea, seemingly tossing and roaring there before me, and then saw on it a ship, a vast ship of size incredible, without sails or oars, holding thousands of people. I seemed on that ship as I watched, seemed moving forward with it. They told me it was sailing over the western ocean that never men had crossed. I feared!

"Then another scene, land appearing from the ship. A great statue, upholding a torch, and we on the ship seemed passing beneath it. They said that the ship was approaching a city, the city of New York, but mists hid all before us. Then suddenly the mists before the ship cleared and there before me seemed the city.

MOTHER of God, what a city! Climbing range on range of great mountain-like buildings that aspired up as though to scale heaven itself! Far beneath narrow streets pierced through them and in the picture we seemed to land from the ship, to go through those streets of the city. It was an incredible city of madness! The streets and ways were mere chasms between the sky-toppling buildings! People—people—people—millions on millions of them rushed through

the endless streets. Countless ground-vehicles rushed to and fro also, and other different ones that roared above the streets and still others below them!

"Winged flying-cars and great airships were sailing to and fro over the titanic city, and in the waters around it great ships of the sea and smaller ships were coming as man never dreamed of surely, that reached out from the mighty city on all sides. And with the coming of darkness, the city blazed with living light!

"The pictures changed, showed other mighty cities, though none so terrible as that one. It showed great mechanisms that appalled me. Giant metal things that scooped in an instant from the earth as much as a man might dig in days. Vast things that poured molten metal from them like water. Others that lifted loads that hundreds of men and oxen could not have stirred.

"They showed men of knowledge like Rastin and Thicourt beside me. Some were healers, working miraculous cures in a way that I could not understand. Others were gazing through giant tubes at the stars, and the pictures showed what they saw, showed that all of the stars were great suns like our sun, and that our sun was greater than earth, that earth moved around it instead of the reverse! How could such things be, I wondered. Yet

they said that it was so, that earth was round like an apple, and that with other earths like it, the planets, moved round the sun. I heard, but could scarce understand.

"At last Rastin and Thicourt led me out of that place of living pictures and to their ground-vehicle. We went again through the streets to their buildings, where first I had found myself. As we went I saw that none challenged my right to go, nor asked who was my lord. And Rastin said that none now had lords, but that all were lord, king and priest and noble, having no more power than any in the land. Each man was his own master! It was what I had hardly dared to hope for, in my own time, and this, I thought, was greatest of all the marvels they had shown me!

"We entered again their building but Rastin and Thicourt took me first to another room than the one in which I had found myself. They said that their men of knowledge were gathered there to hear of their feat, and to have it proved to them.

"'You would not be afraid to return to your own time, Henri?' asked Rastin, and I shook my head.

"'I want to return to it,' I told them. 'I want to tell my people there what I have seen—what the future is that they must strive for.'

"But if they should not believe you?" Thicourt asked.

"Still I must go—must tell them," I said.

"Rastin grasped my hand. 'You are a man, Henri,' he said. Then, throwing aside the cloak and hat I had worn outside, they went with me down to the big white-walled room where first I had found myself.

"It was lit brightly now by many of the shining glass things on ceiling and walls, and in it were many men. They all stared strangely at me and at my clothes, and talked excitedly so fast that I could not understand. Rastin began to address them.

"He seemed explaining how he had brought me from my own time to his. He used many terms and words that I could not understand, incomprehensible references and phrases, and I could understand but little. I heard again the names of Einstein and De Sitter that I had heard before, repeated frequently by these men as they disputed with Rastin and Thicourt. They seemed disputing about me.

"One big man was saying, 'Impossible! I tell you, Rastin, you have faked this fellow!'

"Rastin smiled. 'You don't believe that Thicourt and I brought him here from his own time across five centuries?'

"A chorus of excited negatives answered him. He had me

stand up and speak to them. They asked me many questions, part of which I could not understand. I told them of my life, and of the city of my own time, and of king and priest and noble, and of many simple things that they seemed quite ignorant of. Some appeared to believe me but others did not, and again their dispute broke out.

"There is a way to settle the argument, gentlemen, said Rastin finally.

"How?" all cried.

"Thicourt and I brought Henri across five centuries by rotating the time-dimensions at this spot," he said. 'Suppose we reverse that rotation and send him back before your eyes—would that be proof?'

"They all said that it would. Rastin turned to me. 'Stand on the metal circle, Henri,' he said. I did so.

"All were watching very closely. Thicourt did something quickly with the levers and buttons of the mechanisms in the room. They began to hum, and blue light came from the glass tubes on some. All were quiet watching me as I stood there on the circle of metal. I met Rastin's eyes and something in me made me call goodbye to him. He waved his hand and smiled. Thicourt pressed more buttons and the hum of the mechanisms grew louder. Then he reached toward

another lever. All in the room were tense and I was tense.

Then I saw Thicourt's arm move as he turned one of the many levers.

"A terrific clap of thunder seemed to break around me, and as I closed my eyes before its shock, I felt myself whirling around and falling at the same time as though into a maelstrom, just as I had done before. The awful falling sensation ceased in a moment and the sound subsided. I opened my eyes. I was on the ground at the center of the familiar field from which I had vanished hours before, upon the morning of that day. It was night now, though, for that day I had spent five hundred years in the future.

"There were many people gathered around the field, fearful, and they screamed and some fled when I appeared in the thunderclap. I went toward those who remained. My mind was full of things I had seen and I wanted to tell them of these things. I wanted to tell them how they must work ever toward that future time of wonder.

"But they did not listen. Before I had spoken minutes to them they cried out on me as a sorcerer and a blasphemer, and seized me and brought me here to the Inquisitor, to you, sire. And to you, sire, I have told the truth in all things. I know that in do-

ing so I have set the seal of my own fate, and that only sorcerer would ever tell such a tale, yet despite that I am glad. Glad that I have told one at least of this time of what I saw five centuries in the future. Glad that I saw! Glad that I saw the things that someday, sometime, must come to be—"

IT WAS a week later that they burned Henri Lothiere. Jean de Marselait, lifting his gaze from his endless parchment accusation and examens on that afternoon, looked out through the window at a thick curl of black smoke going up from the distant square.

"Strange, that one," he mused. "A sorcerer, of course, but such a one as I had never heard before. I wonder," he half-whispered, "was there any truth in that wild tale of his? The future—who can say—what men might do—?"

There was silence in the room as he brooded for a moment, and then he shook himself as one ridding himself of absurd speculations. "But tush—enough of these crazy fancies. They will have me for a sorcerer if I yield to these wild fancies and visions of the futicre."

And bending again with his pen to the parchment before him, he went gravely on with his work.

THE END

Even the good wars of Moderan can pall on the new-metal man in his Stronghold. One begins to think, can there be a purpose in life? One begins to make

The FINAL DECISION

By DAVID R. BUNCH

STEEL you can be rid of. Easily. You just lay it by. Metal is a fine thing to leave stacked in corners or along ditches of roads. Or melt it down. When you're THROUGH. Our new-metal alloy "replacements"—what a fine deal . . . to live forever, ho!!!

To live forever; to be our true bad selves. How fine it sounded. What a grand plan! But have you ever lain back at the switch panel in your War Room with your fort on the status of Continuous Blast for weeks on end? *Karoom karoom karoom.* How it palls. How it tires. How you be-

gin to ask yourself, this is for what? what purpose, hey? But you pause once—you rest just a little before the general amnesty goes out with the white flags up and you're dead, your walls flattened, your Stronghold crushed to dust. So what's to do? Year after year you lie back in your Stronghold and ride with the general plan. They want war, you war. They decide to peace it awhile, you send up your white flag along with the jolly rest.

And you smile your teeth at the seasons and let time roll. After all, you have a lot of it—time. In Moderan.

One morning, say—it's a June Wednesday—the vapor shield is blue in memory of those old blue skies, the rockets are firing *arroump aroump aroump*, the walking doll bombs are rolling out toward all the Enemies and the Honest Jakes are homing down just fine to the kill—in fact, it's a perfect war. Then what? Suddenly your heart kicks up in its settings and you feel like doing some poems or sorrowing up on ode or two. Or you want to go love your neighbor and tell him how wrong is the war. Can you do it in this society? In Moderan! You dare! And anyway, what is TRUTH—the poems or the war? telling your neighbor it's wrong, or smiling your teeth bare while his poor green blood spots the plastic?

But before I tell you what I've decided to do concerning this TRUTH-PURPOSE Big Question, let me say I've tasted the sweets. I've been the top war man for many a vapor shield. (A vapor shield is a month, in Moderan, in case you hadn't heard). I've had them all at bay, my rockets beautifully firing for many a Moderan year. I've done the civic thing too. I've helped the poor

struggling Stronghold against the bully one. I've ganged up on the arrogant to blast them down for trees. (A fine metal park now "grows" and glows with shining shrubs where many a bully Stronghold once stood and defied our happy laws). I've trained ever so many boys, refugees from Old Life in Far Wide, made them lean clean citizens for the Program, cleared them of Conscience Clutter and Moral Know, got them ready for Joys. I've sung the hymns on Gads Sonsday, done my prayers to the Needle Building, the Court men, the Hall men, the God-pieces far and wide. And each and every penance day has found me with my little plastic bag of penance tears slung down from a new-metal hand, my latest war medal around my neck, marching with my battle opposites—*plop plip plap* over the homeless plastic—going to the ceremonies, doing penance because as a man I had not, as indeed no man has, been perfect. Yes, I had won all my wars, but—well, who ever wins them as well as he might have won—who ever had as many as he might have had with a little more hard trying?

And now let me try a confession. (I'm not ashamed. I've sought Truth). Let me confess that along with all these high accomplishments of war I've also been a lover. Ah yes, I know it's

unusual. I know I shake you, somewhat. But I reach for Truth —all Truth. I, the greatest of all the Stronghold masters, with my war medals stacked case on case —here on the brink of an Ultimate Decision I confess that I have known, have felt, have been among that unreasonable, unreliable word "love." I am guilty, but I am not sorry; I am not ashamed. Here in this steel-ribbed land, this plastic-coated iron and concrete new-metal place, where we practise strength and speculate on armor, dedicated to the high principle that only hate is reliable and finally true, I was a lover! I seem to brag. Perhaps I do brag.

It started out as Joys. Joys let me say, are fine in Moderan. Joys are what we live for, Joys and wars, and wars are, in a way, of course the ultimate Joys. But when a Joy turns into love, you're on dangerous ground. No longer thinking clean, you may be cluttered. You do not have, perhaps, that sharp precise decision about you that you had when you were clear and knew that hate was the only reliable emotion. Perhaps, in the final thinking, my greatness was truly my temporary downfall.

It began at the great awards festival that year in Warwington, the first year I won the double honors, the one of the crossed missiles and the award of the

eleven steel walls. The award of the crossed missiles was given me because I was the top blaster in Moderan that year, having leveled more recalcitrant Strongholds as cleared places for trees, having fired more nuisance missiles without knockout harm to the Strongholds that lived clear-and-true by the rules of honorable war. The award of the eleven walls was pinned because my inventiveness had come up with a plan that had allowed my servants to be meaner to each other, that is, they had piled up more hate points per capita than had the servants of any other master.—Well there I was, supreme abroad and supreme at home, the acknowledged mean-master of all the lands of Moderan. It was a heady eminence; it was a feat to bloat the ribs and make one stand up taller.

So I went to get my awards that day in Warwington. At the glittering Banquet of Honor I inched out bold when my name was called; *plop plip plap* I wavered toward the dais, slow slow as we go working our hinges and braces. But no one laughed, for they were steel men too. What a price we have paid for our iron durability; what a bounty went to some cruel god of reality when we took the path of "replacements," accepted the new-metal parts and played our

flesh-strips down. How I longed that shining day for one stretch of good striding, one minute with firm young flesh on my steel-rod legs and real feet in my high-polish war boots to reach me forward in a jaunty step.

Amid the heartbreak waiting of the jealous Stronghold masters at last I attained the dais. I stood there waving my joints in a little matter of mockery, lined my leg "replacements" up to stand me to tallest tall, pulled full my new-metal lungs and stared down into the honorable hating faces. Then the applause broke out, salvo on salvo of honor done by steel hands beating steel hands. Outside in the parks the honor missiles fired. Yes, as I said earlier, I have tasted the sweets.

On the dais that day occurred the unusual thing for me the double-honors winner. And it was ultimately my temporary downfall. While I stood chest-proud and tall-up for the pinning on of the honors, someone flicked on the ladies. What I mean to say is, while the ceremonial master was fastening my medals to me, a servant type rose up, a stage hand kind of person, and went all around on the dais and flicked to ON the life-switches of all the new-metal ladies that decorated our ceremonial area. Ordinarily it would have meant

nothing, for our urges along those lines are not usually more than a light lukewarm in Moderan, and we have other things to do of a more consecrated nature. A lady for variety in Joys maybe once or twice a year, but other than that—phoo! But tonight I turned—and of such small things are our lives twisted and warped and arrested, and made full. My medals gleaming in gold, I caught the eye of a charmer. I was stunned to blue-gold and heaven-madness of dreaming, my heart pistonning hard while I stared. Later on in the show, when in eulogy they were giving me Everything—the world for my greatness, all the verbal blah about how a people should be proud, how much truly they owed for my double-win example—I said, trying hard for calm, going big for the cool nonchalance while my heart hammered—pointing, "Throw in the little blue-eyed goldy-blonde one. I've a spot for her in my statuary." So they loaded my wagons with ladies when I readied for my home. All of them I quickly melted down, except the ONE!

But the ONE! Here on the brink of the Final Deciding, after all the eras, after all the monotonous years of tasting the sweets of honor, how I see her, thinking back. Small and gold and blue—how they molded her! how her hinges were set in

smooth! So I had taken her home and had looked at her long and well once and had set her among my statuary and had forgot her—all would have still been safe. Or I could have admired the mechanics at great length, or a little while, rubbed the rivets and weld joints well and then melted her down with my torches. What's to harm? —But no, I couldn't do the prudent thing. Not me!

But I was young then, for Moderan. Perhaps I was feeling a little ego-bloated that night after the gaudy event in Warwington, winning the double honors. Perhaps they had spiked the punch-introven that they served at the Table of Heroes, and not being used to it could be it lingered long in my flesh-strips. Or maybe it was just that time for something long dead in my heart-box to shudder again to life and confound me. At any rate, I did not take her home, look at her long and well once and then set her among my statuary, the ball men, the string-metal maidens and the other monstrosities of art that delight me. I did not feel her rivets and weld joints well and then melt her down to a lump, either! Ah no, not old double-awards winner mush-head me. I flipped her life-switch to ON! And there stood the goldy-blonde maiden, my

darling, my sweetheart—ONE! I knew all at once, somehow that things would never be the same, not quite, for me.

But I will not bore you with the full-rose song of our love. How it would delight me to tell! How it, perhaps, would pall on you to read, for there are not words for its justice, and where there words—well, who is a master chooser? Let the measure of the event be read by you, between the lines, as it were, of what happened to my fort.

Stronghold 10, my fort, was expected, after the big deal of the double-awards win, to blossom and bloom into the terror of all Moderan. No one would believe otherwise. After all, I was young then (for Moderan) and a world of war and hate seemed full of promise for a young man and his fort. Ultimately we fulfilled all the hopes of our well-wishers, but that was—well, ultimately. Right after the Warwington ceremonies, when I went home with my wagons full of ladies and melted them all down but the ONE! Stronghold 10 passed into almost total eclipse. Disgraceful? Sure! My missiles moulded in their launchers, the walking doll bombs did not walk, the cold winds whirled through the holes the enemy warheads made in my ramparts. But it was warm, warm! in one inmost room of my

Stronghold where I dallied. The head weapons man would beat a tattoo on my door day and night to report the battle damage, to tell of our walls being honeycombed. "In hell's name, sir, shall we fire?" he'd shriek. "Fire? Fire!? What fire?" I'd mumble, warm and dazed with love, and then it'd be back to the lips of my new-metal mistress to work the lever bed in our great ecstasy and leave the head weapons man wringing hands and wailing because I would not give the order to fire. How could I? I, give the order to fire in war! I had the great blaze of my own right there in bed, the big bonflame of love.

But ultimately, of course, I came to my senses. Everything palls in awhile, even the Joys of a new-metal mistress, and you find you want something else, even if she is your ONE-darling, your sweet-honeydoll, the one great bang-boom of your heart. I wanted honors. The way to get honors in Moderan was to let the doll bombs roll, let the Honest Jakes scream out, let the high-up weird shrieking Wreck-Wrecks home to targets far and wide. The morning I finally turned her life-switch to OFF I was a madman; I was everywhere at once, ordering here a wall shored up, here a missile fired and here a doll bomb armed with a greater blaster head. I covered miles

that day in the Stronghold, in my little runabout scoot, and the world shuddered with war. Yes, Stronghold 10 was again in the lists, battle-joined. Just say I made up enough hate ground that year to offset the laggard months and again won on points the award of the crossed missiles and stood down in Warwington for the tinsel Banquet of Heroes. The award of the eleven steel walls, given for internal meanness, eluded me that year, and would until the departure of the ONE. But later we got that fixed up too.

And now perhaps you'll wonder why I stand here on the brink of a Final Decision, as I mentioned earlier, and why I make this Decision, I the greatest, most honored man in all Moderan. Not to be long-winded, just say I'm quitting here to search a larger field. Temporarily, I hope, but it could very well be permanent. Why? Perchance —nay, not perchance—most surely I do not know why, clearly, I go. And surely the conjecturing should rest right here. But something nags me, nay, compels me, as it has man for long, to talk much about that I know of least. It is an urge not to be denied, a thing of must-do, surely.

Not to confuse you at the outset, when I speak of quitting, I

mean QUITTING. I mean DYING!—Oh, didn't it seem fine when first we discovered the trick of "replacements" and knew, with new-metal alloy the bulk of our bodily splendor and our flesh-strips few and played down, we could live, could be, endlessly? How the world in our dreams opened up like a sweet-trance song going forever. What a chance to win honors. How much time for the blasting, and time to improve the techniques of blasting. Well, I think we came through on that point. We have improved the techniques of blasting. And honors—many honors were won. But though we talk on and nibble in for a million words, how blast to the heart of the problem? What's to say? I could say I'm tired. I'm not tired, not physically. New-metal alloy doesn't tire. I could say I'm full up with honors, quite bloated with achievement and have no more worlds to conquer. That's nearer the truth, but that's not quite it—not the last part, at any rate. There is a world left to conquer, or be conquered by, or slip into quietly like a new-metal mouse holing behind a wall. There is a world—

And now I'm faced with it, by my own Decision. I may as well tell you. The greatest in Moderan to be the first to crack in Moderan? Irony! Irony! Irony! But the years have piled up on

my flesh-strips, the honors have come, have come, the blasting has gone on and goes on year after year, the truth of hate in our land goes beautifully, and yet the final thing comes no closer to a settlement. Purpose? PURPOSE! That I would know. Must know.

By my own hand—and this is MY Decision—I shall disassemble myself. I have one trusted servant. None of you know him. I keep him in a box in a most secret far place. At my signal he will come, at night from that far place through a secret tunnel, along an ancient and forgotten tube, up through a lid in the floor. He will help me with the last rivets. Perhaps we'll jest a bit—who knows? while we're taking my body down. Perhaps a last toast taken in introven. And then we'll —oh Lord, only he will!—the thought disturbs me though I try to mash it down—only he will stack my body along a wall! All except the flesh-strips. Those he will take with him quietly that night, stored in preservative, back through the secret floor hole and along the dim tunnel miles to store "me" (my flesh) with him in the box, all according to my prearrangement of commands on a tape I have prepared. And I will go—who, what knows HOW I will go? somehow at the separation of the last

flesh-strips, the last nerve strand and the last rivet. Who, what knows WHERE I will go?

But I must go. To find out PURPOSE. The years have brought me finally to that decision. My Stronghold I will put on dormant for the planned duration of my departure. I have let my truce credits accumulate until I have, in funds, many white flags. As the top blaster in Moderan, far ahead on war, I have no battle commitments that are crucial.

Will I come back? I plan to. I plan to come back and tell all of you of my travels. If I do not come back? If I am trapped out there, held in some stillborn quietness, some hanging immensity of void, incomprehensible, space-locked stillness of stillness, oh God? Well, that has been arranged for, for indeed it is a possibility. After a certain time, all commanded in the tape of my pre-arrangements, the little servant man will return from the secret box in the far place. I expect to be back then waiting to help him put me, my body, back together. But if I am not back

then, I will not be back, then. (Oh, let us pun a little here even on the brink of Death). My flesh-strips will go to my head weapons man then, in a different arrangement, of course, for he cannot, must not, be me, and Stronghold 10 will go on, almost as before, into a new era of blasting.

So you see this Final Decision is indeed a final decision. But if the risks are high, the stakes are indeed of the highest. I take this course freely here on the eminence of my heaped honors. I have sought TRUTH and found it existed for me not only in the fine clean hates of the Moderan Strongholds but also in the fine hot love of a new-metal mistress long ago, when I was very young. I now seek a higher thing—PURPOSE. Since I have not found out PURPOSE completely in the blasting, the Joys, the loves, the hates, the life of Moderan, I'll seek it across the line. May fortune smile on my venture. Oh yes, for us all!

THE END





WHAT NEED of MAN?

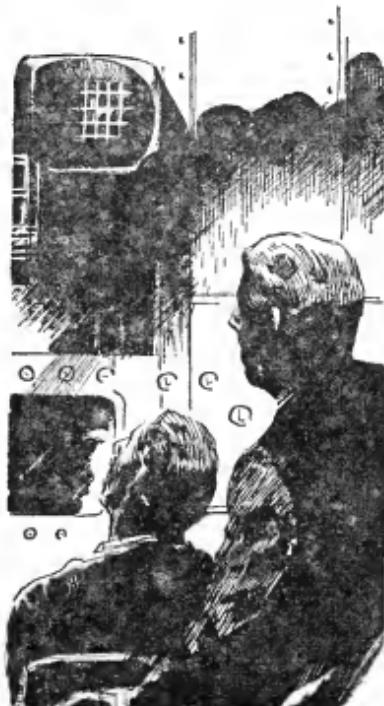
By HAROLD CALIN

Illustrated by SUMMERS

Bannister was a rocket scientist. He started with the premise of testing man's reaction to space probes under actual conditions; but now he was just testing space probes—and man was a necessary evil to contend with.

WHEN you are out in a clear night in summer, the sky looks very warm and friendly. The moon is a big pleasant place where it may not be so humid as where you are, and it is lighter than anything you've ever seen. That's the way it is in summer. You never think about space being "out there". It's all one big wonderful thing, and you can never really fall off, or have anything bad happen to you. There is just that much more to see. You lie on the grass and look at the sky long enough and you fall into sort of a detached mood. It's suddenly as if you're looking down at the sky and you're lying on a ceiling by some reverse process of gravitation, and everything is absolutely pleasant.

In winter it's quite another thing, of course. That's because



the sky never looks warm. In winter, if you are in a cold climate, the sky doesn't appear at all friendly. It's beautiful, mind you, but never friendly. That is when you see it as it really is. Summer has a way of making it look friendly. The way you see it on a winter night is only the merest idea of what it is really like. That's why I can't feel too bad about the monkey. You see, it might have been a man, maybe me. I've been out there, too.

There are two types of classified government information. One is the type that is really classified because it is concerned with efforts and events that are of true importance and go beyond public evaluation. Occasional unauthorized reports on this type of information, within the scope that I knew it at least, are written off as unidentified flying objects or such. The second type of classified information is the kind that somehow always gets into the newspapers all over the world . . . like the X-15, and Project Dyna-Soar . . . and Project Argus.

Project Argus had as its basis theory that was proven completely unsound six years ago. It was proven unsound by Dennis Lynds. He got killed doing it. It had to do with return vehicles from capsules traveling as escape velocity, being oriented

and controlled completely by telemetering devices. It didn't work. This time, the monkey was used for newspaper consumption. I'm sure Bannister would have preferred it if the monkey had been killed on contact. It would have been simpler that way. No mass hysteria about torturing a poor, ignorant beast. A simple scientific sacrifice, already dead upon announcement, would have been a *fait accompli*, so to speak, and nothing could overshadow the success of Project Argus.

But Project Argus was a failure. Maybe someday you'll understand why.

Because of the monkey? Possibly. You see, I flew the second shot after Lynds got killed. After that, came the hearing, and after that no men flew in Bannister's ships anymore. They proved Lynds nuts, and got rid of me, but nobody would try it, even with manual controls, where there is no atmosphere.

When you're putting down after a maximum velocity flight, you feed a set of landing coordinates into the computer, and you wait for the computer to punch out a landing configuration and the controls set themselves and lock into pattern. Then you just sit there. I haven't yet met a pilot who didn't begin to sweat at that moment, and sweat all the way down. We

weren't geared for that kind of flying. We still aren't, for that matter. We had always done it ourselves, (even on instruments, we interpreted their meaning to the controls ourselves) and we didn't like it. We had good reason. The telemetry circuits were no good. That's a bad part of a truly classified operation: they don't have to be too careful, there aren't any voters to offend. About the circuits, sometimes they worked, sometimes not. That was the way it went. They wouldn't put manual controls in for us.

It wasn't that they regarded man with too little faith, and electronic equipment with too much. They just didn't regard man at all. They looked upon scientific reason and technology as completely infallible. Nothing is infallible. Not their controls, not their vehicles, and not their blasted egos.

Lynds was assigned the first flight at escape velocity. They could not be dissuaded from the belief that at ultimate speed, a pilot operating manual controls was completely ineffectual. Like kids that have to run electric trains all by themselves, playing God with a transformer. That was when I asked them why bother with a pilot altogether. They talked about the whole point being a test of man's abil-

ity to survive; they'd deal with control in proper order. They didn't believe it, and neither did we. We all got very peculiar feelings about the whole business after that. The position on controls was made pretty final by Bannister.

"There will be no manuals in my ships," he said. "It would negate the primary purpose of this project. We must ascertain the successful completion of escape and return by completely automatic operation."

"How about emergency controls?" I asked. "With a switch-off from automatic if they should fail."

"They will not fail. Any manual controls would be inoperative by the pilot in any case. No more questions."

I feel the way I do about the monkey, Argus, because, in a way, we all quit about that time. You don't like having spent your life in a rather devoted way with purposes and all that, and then being placed in the hands of a collection of technologists like just so many white mice . . . or monkeys, if you will. Lynds, of course, had little choice. The project was cleared and the assignment set. He hated it well enough, I know, but it was his place to perform the only way one does.

It ended the way we knew it would. I heard it all. It wasn't

gruesome, as you might imagine. I spoke with Lynds the whole time. It was sort of a resigned horror. The initial countdown went off without a hitch and the hissing of the escape valves on the carrier rocket changed to a sound that hammered the sky apart as it lifted off the pad.

"Well, she's off," somebody said.

"Let's don't count chickens," Bannister said tautly. Wellington G. Bannister worked for the Germans on V-2s. He is the chief executive of technology in the section to which we were assigned at that time. He is the world's leading expert on exotic fuel rocket projectile systems, rocket design, and a brilliant electronic engineer as well. High enough subordinates call him Wellie. Pilots always called him Professor Bannister. I issued the report that was read in closed session in London in which I accused Bannister of murdering Lynds. That's how come I'm here now. I was cashiered out, just short of a general court martial. That's one of the nice parts about truly classified work. They can't make you out an idiot in public. Living on a boat in the Mediterranean is far nicer than looking up at the earth through a port-hole in a smashed up ship on the moon, you must admit.

Well, Bannister could have well counted chickens on that

launching. The first, second and third stages fired off perfectly, and within fourteen minutes the capsule detached into orbit just under escape velocity. The orbit was enormously far out. They let Lynds complete a single orbit, then fired the capsule's rockets. He ran off tangential to orbit at escape velocity on a pattern that would probably run in a straight path to infinity. In fact, the capsule is probably still on its way, and as I said, it's six years now. After four minutes, the return vehicle was activated and as it broke away from the capsule, Lynds blacked out for twenty seconds. That was the only time I was out of direct contact with him after he went into orbit.

"Now do you understand about the manual controls?" Bannister said.

"He'll come out of it in less than a minute."

"One can never be sure."

"There's still no reason why you can't use duplicate control systems."

"With a switch-off on the automatic, if they fail?"

"Yes. If for nothing more than to give a man a chance to save his own neck."

"They won't fail."

"The simplest things fail, Bannister. Campbell was killed in a far less elaborate way."

He looked at me. "Campbell?

Oh, yes. The landing over the reef. I had nothing to do with that."

"You designed the power shut-off that failed."

"Improper servicing. A simple mechanical failure."

"Or the inability of a mechanism to compensate. The wind shifted after computer coordination. A pilot can feel it. Your instruments can't. There was no failure, there. The shut-off worked perfectly and Campbell was killed because of it."

I watched the tracking screen, listened to the high keening noises coming from the receivers. The computers clicked rapidly, feeding out triangulated data on the positions of the escape vehicle and the capsule. The capsule had been diverted from its path slightly by reaction to the vehicle's ejection. Its speed, however, was increasing as it moved farther out. The vehicle with Lynds was in a path parabolic to the capsule, almost like the start of an orbit, but at a fantastic distance. He was, of course, traveling at escape velocity or better, and you do not orbit at escape velocity.

"Harry. Harry, how long was I out?" We heard Lynds' voice come alive suddenly through the crackling static.

"Hello, Dennis. Listen to me. How are you?"

"I'm fine, Harry. What's wrong? How long was I out?"

"Nothing is wrong. You were out less than half a minute. The ejection gear worked perfectly."

"That's good." The tension left his voice and he settled back to a checking and rechecking of instruments, reactions and what he would see. They activated the scanner. The transmitting equipment brought us a view that was little more than a spotty blackness. But I think the equipment was not working properly. You see, what Lynds said did not quite match what we saw. They later used the recording of his voice together with an affidavit sworn to by a technician that our receiver was operating perfectly, as evidence in my hearing. They proved, in their own way, that Lynds had suffered continual delirium after blacking out. The speed, they said, was the cause. It became known as Danger V. Nobody ever bothered to explain why I never encountered the phenomenon of Danger V. It became official record, and my experience was the deviant. It was Bannister's alibi.

We watched the spotty blackness on the screen and listened to Lynds.

"Harry, I can see it all pretty well now," he began. "There's slight spin on this bomb so it comes and goes. About sixty second revolutions. Nice and slow.

Terribly nauseating to look at. But I'm feeling fine now, better than fine. Give me a stick and I'll move the Earth. Who was it said that? Clever fellow. You say I was out about half a minute. That makes it about three more minutes until Bannister's controls are supposed to bring me back."

"Yes, Dennis, but what do you see? Do you hear me? What do you see?"

"Let me tell you something, Harry," he said. "They aren't going to work. They're not wrecked or anything. I just know they aren't worth sweet damn all. Like when Campbell had it. He knew it was going to happen. You can trust the machines just so long. After that, you're batty to lay anything on them at all. But can you see the screen? There it is again. We're turning into view. I can see the earth now. The whole of it."

There was silence then. We looked at the screen but saw only the spotty blackness. I looked from the screen to the speaker overhead, then back at the screen. I looked about the control room. Everyone was doing his work. The instruments all were working. The computers were clicking and nobody looked particularly alarmed, except one other pilot who was there too, Forrest. Maybe Forrest and I pictured ourselves in Lynds'

place. Maybe we both had the same premonitions. Maybe we both held the same dislike and distrust of the rest of them. Maybe a lot of things, but one thing was sure. The papers would never get hold of this story, and because of that, Bannister and the rest of them didn't really care a hang about Lynds or me or Forrest or any of the others that might be up there.

It seemed an age passed until we heard Lynds again. The tape later showed it was no more than half a minute. "Bannister, can you hear me?" he said suddenly. "Bannister, do you know what it feels like to be tied into a barrel and tossed over Victoria Falls? Do you? That's what it's like out here. Not that you care a damn. You'll never come up here, you're smart enough for that. Give me a paddle, Bannister, that's what I want. It's no more than a man in a barrel deserves. It's black out here, black and there's nothing to stand on. The earth looks like a flat circle of light and very big, but it doesn't make me feel any better. These buggies of yours won't be any use to anybody until you let the pilot do his own work. I crashed once, in a Gypsy Moth, with my controls all shot away by an overenthusiastic Russian fighter pilot near the Turkish border. Coming down, I felt the way I do now.

"Look at the instruments and remember, Bannister. My reflexes are perfect. There's nothing wrong with me. I could split rails with an axe now, if I had an axe. An axe or a paddle. Harry, I'm not getting back down in one piece. Somehow, I know it. Don't you let them do it to anyone else unless there are manual controls from the ejection onwards. Don't do it. This isn't just nosing into the Slot, over the reef between the town and the island and letting go then, and beginning to sweat. This is much more, Harry. This is bloody frightening. Are the three minutes up yet? My stomach is crawling at the thought of you pushing that button and nothing happening. Listen, Bannister, you're not getting me down, so forget any assurances. I hope they never let you put anybody else up here like this. It's black again. We've swung away."

Bannister looked at my eyes. "It's almost time," he said.

Eight seconds later they pushed the button. Perhaps it would have been better if nothing happened then. But that part worked. They got him out of the parabolic curve and headed back down. They fired reverse rockets that slowed him. They threw him into a broad equatorial orbit and let him ride. It took over an hour to be sure he was in orbit. I admired them

that, but began to hate them very much. They ascertained the orbit and began new calculations. Here was where he should have had the controls on in.

The escape vehicle was a small delta shaped craft. The wings, if one could call them that, spanned just under seven feet. They planned to bring him down in a pattern based on very orthodox principles of flight. There remained sufficient fuel for a twelve second burst of power. This would decelerate the craft to a point where it would drop from orbit and begin a descent. I later utilized the same pattern by letting down easy into the atmosphere after the power ran down and sort of bouncing off the upper layers several times to further decelerate and finally gliding down through it at about Mach V, decelerating rapidly then, almost too rapidly, and finally passing through the exosphere into the ionosphere. The true stratosphere begins between sixty and seventy miles up, and once you've passed through that level and not burnt up, the rest of it is with the pilot and his craft.

It takes hours. I came down gradually, approaching within striking distance west of Australia, then finally nosed in and took my chance on stretching it to one of the ten mile strips for

a powerless landing. I did it in Australia. But if I had not had orthodox controls, had I even gotten that far, I would have churned up a good part of the Coral Sea between Sydney and New Zealand. You see, you've got to feel your way down through all that. That's the better part of flying, the "feel" of it. Automatic controls don't possess that particular human element. And let me tell you, no matter what they call it now—space probing, aeronautics or what have you—it's still flying. And it's still men that will have to do it, escape velocity or no. Like they talk about push-button wars, but they keep training infantry and basing grand strategy on the infantry penetration tactics all down through the history of warfare. They call Clausewitz obsolete today, but they still learn him very thoroughly. I once discussed it with Bannister. He didn't like Clausewitz. Perhaps because Clausewitz was a German before they became Nazis. Clausewitz would not look too kindly on a commander whose concern with a battle precluded his concern for his men. He valued men very highly. They were the greatest instrument then. They still are today. That's why I can't really make too much out of the monkey. I feel pretty rotten about him and all that. But the monkey up there means a man someplace is still down here.

Anyway, after Lynds completed six orbital revolutions, they began the deceleration and descent. The whole affair, as I said, was very solidly based on technical determinations of stresses, heat limits, patterns of glide, and Bannister's absolute conviction



that nothing would let go. The bitter part was that it let go just short of where Lynds might have made it. He was through the bad part of it, the primary and secondary decelerations, the stretches where you think if you don't fry from the heat, the ship will melt apart under you, and the buffeting in the upper levels when ionospheric resistance really starts to take hold. And believe me, the buffeting that you know about, when you approach Mach I in an after-burnered machine, is a piece of cake to the buffeting at Mach V in a rocket when you hit the atmosphere,

any level of atmosphere. The meteorites that strike our atmosphere don't just burn up, we know that now. They also get knocked to bits. And they're solid iron.

Lynds was about seventy miles up, his velocity down to a point or two over Mach II, in level

shift in air current, or any of a million other circumstances that can occur. That all depends on touch. It's what makes some flyers live longer than others. It's like the drag on a fishing reel. You set it tight or loose according to the weight of the fish you're playing. When you reel in, the



flight heading east over the south Atlantic. From about that altitude, manual controls are essential, not just to make one feel better, but because you really need them. The automated controls did not have any tolerance. You don't understand, do you? Look, when one flies and wants to alter direction, one applies pressure to the control surfaces, altering their positions, redirecting the flow of air over the wings, the rudder and so forth. Now, in applying pressure, you occasionally have to ease up or perhaps press a bit more, as the case may be, to counteract turbulence,

line can't become too tight or it will snap, so you have the drag. It's really quite ingenious. It lets the fish pull out line as you reel in. It's the degree of tolerance that makes it work well as an instrument. In flying, the degree of tolerance, the compensating factor is in man's hands. In the atmosphere, it's too unpredictable for any other way.

Well, they calculated to set the dive brakes at twelve degrees at the point where Lynds was. Lynds saw it all.

"This is more like my cup of tea," he said at that point. "Har-

ry, the sky is a strange kind of purple black up here."

"They're going to activate the brakes, Den," I said. "What's it like?"

"Not yet, Harry. Not yet."

I looked at Bannister. He noted the chart, his finger under a line of calculations.

"The precise rate of speed and the exact instant of calculation, Captain Jackson," Bannister said. "Would you care to question anything further?"

"He said not yet," I told him.

"Therefore you would say not yet?"

"I would say this. He's about in the stratosphere. He knows where he is now. He's one of the finest pilots in the world. He'll feel the right moment better than your instruments."

"Ridiculous. Fourteen seconds. Stand by."

"Wait," I said.

"And if we wait, where does he come down, I ask you? You cannot calculate haphazardly, by feel. There are only four points at which the landing can be made. It must be now."

I flipped the communications switch, still looking at Bannister.

"This is it, Den. They're coming out now."

"Yes, I see them. What are they set for?"

"Twelve degrees."

"I'm dropping like a stone, Harry. Tell them to ease up on

the brake. Bannister, do you hear me? Bring them in or they'll tear off. This is not flying, anymore." His voice sounded as if he was having difficulty breathing.

"Harry," he called.

They held the brakes at twelve degrees, of course. The calculations dictated that. They tore away in fifteen seconds.

"Bannister! They're gone," Dennis shouted. "They're gone, Bannister, you butcher. Now what do you say?"

Bannister's face didn't flinch. He watched the controls steadily.

"Try half-degree rudder in either direction," I said.

Bannister looked at me for a second. "His direction is vertical, Captain. Would you attempt a rudder manipulation in a vertical dive?"

Not a terminal velocity drive, Bannister. He said it's not flying anymore. Lord knows which way he's falling."

"So?"

"So I'd try anything. You've got to slow him."

"Or return him to level flight."

"At this speed?"

We both looked at the controls now. The ship was accelerating again, and dropping so rapidly I couldn't follow the revolutions counter.

"Engage the ailerons," Bannister ordered. "Point seven degrees, negative."

Dennis came back on. "Harry,

what are you doing? The ship is falling apart. The ailerons. It won't help. Listen, Harry, you've got to be careful. The flight configuration is so tenuous, anything can turn this thing into a falling stone. It had to happen, I knew, but I don't want to believe it now. This sitting here with that noise getting louder. It's spiraling out at me, getting bigger. Now it's smaller again. I'm afraid, Harry. The ailerons, Harry, they're gone. Very tenuous. They're gone. I can't see anything. The screens are black. No more shaking. No more noise. It's quiet and I hear myself breathing, Harry. Harry, the wrist straps on the suits are too tight. And the helmet, when you want to scratch your face, you can go mad. And Harry—"

That was the end of the communications. Something in the transmitter must have gone. They never found out. He didn't hit until almost a minute later, and nobody ever saw it. The tracking screen followed him down very precisely and very silently. There was no retrieving anything, of course. You don't conduct salvage operations in the middle of the south Atlantic.

I turned in my report after that. No one had asked for it, so it went through unorthodox channels. It took an awfully long

time and my suspension did not become effective until after the second shot. I was the pilot on that one, you know. I got them to install the duplicate controls, over the insistence by Bannister that resorting to them, even in the event that it became necessary, would prove nothing. He even went as far as to talk about load redistribution electric control design. As a matter of fact, I thought he had me for a while, but I think in the end they decided to try to avoid the waste of another vehicle. At least, that might be the kind of argument that would carry weight. The vehicles were enormously expensive, you realize.

I made it all right, as I said. It took me nine hours and then some, once they dropped me from orbit. I switched off the automatic controls at the point where the dive brakes were to have been engaged. This time, the brakes had not responded to the auto controls and they did not open at all. I found out readily enough why Lynds was against opening them at that point. Metal fatigue had brought the ship to a point where even a shift in my position could cause it to stop flying.

I came down in Australia and the braking 'chute tore right out when I released it. I skidded nine miles. A Royal Australian Air Force helicopter picked me up two hours later.

I learned of the suspension while in the hospital. I didn't get out until just in time to get to London for the hearing. My evidence and Forrest's, and Lynds' recorded voice all served to no purpose. You don't become a hero by proving an expert wrong. It doesn't work that way. It would not do to have Bannister looked upon as a bad gambit, not after all they went through to stay in power after putting him in. The reason, after all, was all in the way you looked at it. And a human element could always be overlooked in the cause of human endeavor. Especially when the constituents never find out about it.

After that, they started experimentation with powered returns. The atmosphere has been conquered, and now there remained the last stage. They never did it successfully. They couldn't. But it did not really matter. What it all proved was that they did not really need pilots for what Bannister was after. He had started with a premise of testing man's reactions to space probes under actual conditions, but what he was actually doing was testing space probes alone, with man as a necessary evil to contend with to give the project a reason.

It was all like putting a man in a racing car traveling flat out on the Salts in Bonneville, Utah.

He'll survive, of course. But put the man in the car with no controls for him to operate and then run the thing completely through remote transmission, and you've eliminated the purpose for the man. Survival as an afterthought might be a thing to test, if you didn't care a hoot about man. Survival for its own sake doesn't mean anything unless I've missed the whole point of living, somewhere along the line.

Bannister once described to me the firing of a prototype V-2. The firing took place after sunset. When the rocket had achieved a certain altitude, it suddenly took on a brilliant yellow glow. It had passed beyond the shadow of the earth and risen into the sunlight. Here was Bannister's passion. He was out to establish the feasibility of putting a rocket vehicle on the moon. It could have a man in it, or a monkey. Both were just as useless. Neither could fly the thing back, even if it did get down in one piece. It could tell us nothing about the moon we didn't already know. Getting it down in one piece, of course, was the reason why they gave Bannister the project to begin with.

So Bannister is now a triumphant hero, despite the societies for the prevention of cruelty to animals. But nobody understood it. Bannister put a vehicle on the moon. We were the first to

do it. We proved something by doing nothing. Perhaps the situation of true classified information is not too healthy a one, at that. You see, we've had rockets with that kind of power for an awfully long time now. Maybe some of them know what he's up to. When I think about that, I really become frightened.

The monkey, I suppose, is dead. The most we can hope for is that he died fast. It's very like another kind of miserable hope I felt once, a long time ago, for a lot of people who could be offered little more than hope for a fast death, because of something somebody was trying to prove.

There's some consolation this time. It's really only a monkey.

This I know, they'll never publish a picture of the vehicle. Someone might start to wonder why the cabin seems equipped to carry a man.

When you're out in a clear night in summer, the sky looks very friendly, the moon a big pleasant place where nothing at all can happen to you. The vehicle used in Project Argus had a porthole. I can't imagine why. The monkey must have been able to see out the porthole. Did he notice, I wonder, whether the earth looks friendly from out there.

THE END

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REVENGE

By ARTHUR PORGES

*Hell may have no fury like a woman scorned,
but the fury of a biochemist scorned is just as great
—and much more fiendish.*

If the Syndicate is half as powerful as some people have claimed, they'll murder me any day now. I object on principle to being killed by evil men for a good deed, so maybe lynching by stupid ones is preferable. I mean you, and you—the suet-heads who profited by my work, but refused your help.

You've been yammering about narcotics for years—how drug addiction was spreading, reaching down even to your unmanly, spoiled brats, who despise their parents and our venal society to the same degree. The stuff comes in by the ton across the Mexican border; they grow it for our benefit in Red China; and a few "friendly" Asian countries don't mind exporting

some now and then, either. In spite of heroic work by our small group of poorly financed narcotics agents, the flow of drugs cannot be halted.

Oh you and your elected representatives made a lot of panicky moves to combat this threat. The Department of Health, Education, and Welfare was given a new Bureau, set up like the F. B. I., and headed by Myron P. Bishop, a man trained by that distinguished expert on narcotics, Anslinger, himself.

But as to sensible solutions, such as legalizing the sale of heroin to break the world-wide criminal control on the distribution of drugs—that your vapid Puritan morality wouldn't permit. Millions of dollars for en-

forcement, and to punish the sick, but not one cent for prevention, and almost nothing to find out why people become addicts in the first place, and how to cure them.

It wasn't entirely your fault. You listened to the experts, usually career policemen who expect to cure any social evil with clubs and prisons. I am reminded of the simpleton found measuring two horses with a tape in order to be able to distinguish the black one from the white. Until I came along, nobody had ever reached the core of the matter. You don't kill a flourishing plant—in this case a Upas Tree—by lopping off a handful of leaves. You strike at the roots. That's what I meant to do—and did—for your benefit. Oh, I admit there were a few dollars in it for me, but so what? The ox that treads the wheat is not muzzled. When a man saves a manufacturer \$50,000 a year by some improved process, or even by using three bolts someplace instead of four, they gladly pay him three per cent of the annual savings, or something like that, as a reward. Most big outfits have such a policy, and it's a good one. Well, if I cut millions off the government budget, is a lousy \$100,000 too much to ask? I just wanted to go on with my researches without battling a horde of bill collectors every

month. Fat chance—I didn't get a measly dime. You, your elected and appointed officials, and your kept press just gave me the all-time horse-laugh. Well, he who laughs last—you'll remember the old saw; I'll see to that.

I'm writing this so you'll know how they treated me. You mustn't think I'm a crank, mad at the world for no reason. My case is better than Dreyfus' and Sacco-Vanzetti's combined. Here I was prepared to remove the drug scourge forever, and at a piddling cost. Did I get courteous handling, or at least a fair hearing? Not bloody likely! I was an idiot to expect anything from the world's most inflated bureaucracy—Dickens' Circumlocution Office brought up to date.

Let me start at the beginning; then you'll see who's right. I'm a biochemist by profession. A damned good one, but too individualistic to please the big research centers. They like docile teams—scientific Percherons to pull the big red wagon. So I taught at one jerkwater college after another. Sooner or later my superiors, all dodderers who stopped thinking with sighs of relief once they had their PhD union cards, objected to my attitude. If I published, they were jealous; it made the other faculty members look bad. If I failed to produce, then why was I

wasting lab facilities and neglecting my classes? The students wanted their term papers back within five days; the other teachers could manage it, why not me? The difference between what my colleagues expected from their pupils and what I did was the difference between the lightning bug and the lightning. Those students! They didn't want biochemistry; they want a letter on a card; a "C" would do. Damn few of them got it from me, I'm happy to say, and those that did, knew more about the subject than most PhD's.

Now, I take as my creed the fruitful dictum: Think in other categories. A famous researcher once invented—or discovered—this maxim in a dream. It is the secret of many great advances in science. Get off the main line. Stop fooling with the leaves of the tree, and turn to the roots. Invert the problem, if necessary.

I was thinking about the narcotics scandal. A teacher at my college had a lovely sixteen-year-old daughter, carefully reared, who was badly hooked. I saw that poor man's hair whiten in a few months. How would you feel, knowing that your daughter had been so degraded by a drug as to sell herself to anybody with enough money to buy her a fix? An innocent, playful sniff at a party, and some punk, probably an addict himself, had trapped

her in order to finance his own habit. They talk about cures, but people on the inside know that permanent escape from the trap is as rare as portraits of Trotsky in Russia. Or integrity among politicians in this country.

Well, I put my brains to work on the problem. It seemed obvious that, as in the case of Prohibition, you couldn't possibly lick the drug traffic by cutting the lines of supply. Not in a country as big as ours, with the Mexican border and Red China on the side of the enemy. Not when a package the size of a watch could be worth a fortune.

Think in other categories, I reminded myself. How can a biochemist, rather than a policeman, stop the Syndicate? Then it came to me, simple and obvious. Hit the source, the weak link, the roots of the poison tree. In short, *Papaver somniferum*, the opium poppy itself.

Basic, isn't it? Destroy the plant, and you cut the heart out of the drug traffic. No cops; no hopeless warfare against cunning smugglers; no battle with big-money corruption of officials. And remember: no chemist alive can synthesize opium or its derivatives. Sure, there are a few other bad narcotic drugs from different plants, like marijuana, but they play a relatively small part, and can be controlled. Be-

sides, it was my intention to destroy their sources as well, when the time came. But first the biggest culprit.

I go to work, re-examining all the recent work on tobacco virus and similar plant killers. New studies on the key protein chains of the genes were the foundation stones of my plan. The disease had to be highly specific and deadly. I couldn't risk even the remotest possibility of harming food plants in a hungry world.

But, as I've said, with no false modesty, I'm no slouch in my field of biochemistry. I took a harmless poppy rust from our California flowers here, and treated its genes with certain chemicals. It was a matter of six months, and well over eighty tries, but finally I came up with a virus that killed the opium poppy like smallpox wiped out the Sioux. No; more than that. Some Indians were, or became, immune to the disease, just as insects build up resistance to the most potent poisons. But with my virus that's simply not possible. I won't get technical here, but to become immune to this stuff would be like a man's developing anti-bodies against his own tissues. It couldn't happen without killing the organism faster than the virus does. Once this epidemic began, not a poppy would survive.

So far everything was fine, except that, as usual, I lost my job. I got fifty term papers behind. It didn't bother me, because there wasn't a student in my three classes who knew any more biochemistry than a baboon. In the first paper I'd found this gem: "It is well known that a mammal reproduces by sucking its young." Faced with more of the same, it was a pleasure to be fired.

Now, in any really civilized society, they'd have my statue on top of the capitol building, and with neon lights to boot. But in our bureaucratic wilderness of Washington, with a thousand government-hired cretins running interference for each big, appointed super-cretin, my troubles had just begun.

I took some sample poppies to the H. E. W. offices. They were in vacuum sealed plastic envelopes, because I knew that once my virus spores got loose in the atmosphere, they'd spread all over the world like radioactive dust, or faster. I hoped to see the Commissioner of Narcotics, Myron P. Bishop, but His Magnificence was harder to reach than the whole College of Cardinals. It was impossible to put my point across. Plants, was it? That way to the Department of Agriculture. Oh, poppies. Pamphlets on wildflowers could be had from Documents.

I wrote countless letters, pulled what few wires were within my reach, and haunted Washington like the ghost of Calhoun. And finally I got ten minutes with El Pomposo himself.

As I've said, dumb students are nothing new to me. But even the worst of them couldn't have been any more obtuse than Bishop. I had the dead plants, all brown and withered. There were simple charts showing exactly, in terms of time, how the virus worked, killing the poppy within forty-eight hours, and even destroying the viability of any seeds that might be ripening.

Did this jughead appointed by the President to fight the terrible drug problem comprehend the miracle being offered to him? The simple solution that would make him the greatest—in fact, the only—success in his post that this country had ever known? Not he. I had to spell it out in nursery school terms.

But I've penetrated many a numbskull in class by dint of persistent drilling, and finally got through to the cold oatmeal under his parietal bones.

Did that clear the air? If you think so, guess again. He threw up his hands in horror. Turn a plant disease loose on the world deliberately! It was a violation of the conventions against germ warfare. It was barred by international law. It was unthinkable

that the United States would indulge in such irresponsible behavior.

All right, I said. Take it to the U. N. Let them distribute the poppy killer. He brightened a little at that, since every bureaucrat loves above all to pass the buck. A clear-cut decision is fatal to the species. Then he gave me a note to our delegate, Wilbur Cavanaugh, Jr.

This character was a bit sharper. He heard me out, looked at my deceased poppies, and arranged a conference with a bigwig from the State Department. Then things got really messy. When I pointed out that in a few weeks every damned opium plant in Asia would be deader than the Ming Dynasty, this little creep from Foggy Bottom almost had kittens on the spot. It seems that just now our relations with Red China are highly delicate. If we turned the virus loose on them, even if it did kill only poppies (and he had his doubts about that. What if—shudder—it attacked rice?) the Reds would scream murder. They'd yell germ warfare, and have us cold. They could ship us opium by the long ton—that didn't affect the delicate condition, though.

It seemed to me, however, that there was something ambiguous and wistful in the State man's attitude, and I thought I under-

stood. When a country sends a spy to do some dirty job, they disown him officially if he is caught. Except for that U-2 fiasco some years ago, when the U. S. broke all the unwritten rules and made jackasses of us before the world. Now, obviously, if I killed all the poppies in the world, that would be a fait accompli. Washington could deny knowing anything about the cause of death, especially since it would work indiscriminately even in friendly parts of Asia. Just as long as I got my hundred thousand, I didn't mind skipping the official credit. In fact, it would keep the Syndicate off my back.

"Suppose," I said, "on my own responsibility, I release the spores and ruin the opium trade for good. Will you see that I get paid?"

He was horrified. In the first place, nothing whatever could be done until the virus had been checked out by government scientists. If I would give him the virus, and my notes, he'd start the ball rolling. I know that Washington ball; it's all angles, and doesn't roll worth a damn. I went cold at the thought. Before you can get an okay on anything big from a bureau there, your long, grey beard will be sweeping the floor.

For a moment I was tempted to take my plans to England, but then remembered that by

sane legislation legalizing the sale of drugs under controlled conditions, they had already licked the problem, and wouldn't be in the market. For two cents, I thought, I'd make China pay me the money to keep the virus buried. For that matter, the Syndicate would gladly kick in with a million. But I'm an American first, and couldn't play it that way, especially remembering Professor A's daughter.

I thought the thing through, and decided that if I turned the disease loose, so that every good poppy is a dead one, any decent government will quietly pay me off. They only need to know that no other plants are affected.

And that's the way I played it. The next day I sprayed a few grams of concentrated virus into the humid air of Washington, and went home. If you read the papers, you know the rest of that particular story. In eight months not even Sherlock Holmes could have found a live opium poppy on the face of the earth. Once current stocks are gone, there'll be no more narcotics deriving from that particular plant. The government sensibly outbid all the addicts and operators in order to save what is left for medical use. It should last for fifty years. All according to my plan—fine!

But when I tried to collect, they didn't know me from the

late Lucky Luciano. There was no proof whatever, they said, that my virus did the job. After all, their scientists had not been allowed to check my work. I could have faked the whole thing, attempting to take credit for a mutant disease which began naturally, especially since dozens of bacteriologists were now isolating the virus.

When I pressed harder, they dragged out an F.B.I. file showing I was a crank and maverick, unable to hold a job, and guilty of signing a peace petition in 1949. If Bishop or Cavanaugh tried to help, I don't know about it. I suppose I'm lucky that the Syndicate has been equally skeptical. Otherwise, being out many millions, they would have liquidated me by now.

But basically it's your fault—you, the people. I took my case to you, as a court of last resort. A few papers gave me a fair enough shake to present the evidence, but you paid no attention. I tried to get your signatures to a petition to purge the H.E.W. Department, or to start a Congressional investigation. You just laughed at me. You enjoyed that headline: "Crackpot Chemist Claims He Killed All Those Poppies. Was it Self-Defense?"

Well, my jovial friends, I'm going to teach you a lesson. I could easily wipe out half of you

by killing some selected food plants, but I'm not a mass murderer, and would rather make a more subtle job of it. I've two more viruses just about perfected; after the first, it's easier. When I turn them loose, you'll have a real grievance against me. This time, you're getting notice in advance, so nobody can talk about "natural" disease. Besides, the appended lab notes will easily convince a few key men in biochemistry; and they'll confirm me.

Now let me point out the two plants you'll miss badly.

One is yeast. Yes, yeast. When you read this, the one-celled organisms responsible for wine, beer, and alcohol generally, will be dying as a race. In a few months, good liquor will be scarcer than an electric blanket in hell. Sure, grain alcohol can be synthesized, but bouquet isn't that simple, and you'll pay dearly for it—how you'll pay! and decent lab-made whiskey won't be on the shelves tomorrow, either.

The other plant you'll miss even more. I mean tobacco. No more cigarettes; no more fat cigars—and hallelujah!—no more tobacco commercials on TV. Did you know, tobacco cannot be synthesized at all, at any price? Get it, you two-pack-a-day fiends?

THE END

MY ARMCHAIR is cozy; the fire keeps the winter chill out where it belongs; there are some interesting books to report on this month, and yet, I still have a gripe. It has to do with what I call the "predigested" syndrome in the world of science fiction. This creeping symptom has already become a way of life in two of our less dynamic forms of entertainment: TV and the movies. In both there is less and less original work being done and more and more borrowing from other sources—plays, books, etc. Now there is nothing wrong with this tendency except when it becomes a replacement or substitute for original efforts in the medium, which is exactly what has happened. Granted that for better or worse, this use of leftovers from other sources has become a fixed part of the

current scene—it still hurts to find it invading science fiction which by its very definition ought to be a forerunner not a follower, an innovator not a copyist.

And so I was somewhat perturbed to find among my review books a handsomely laid out volume titled *Star of Stars*, edited by Frederik Pohl (240 pp., Doubleday & Company, Inc., \$3.50). Why perturbed? Well, I have the utmost respect for Mr. Pohl's efforts in behalf of science fiction, both as a writer and as editor of the *Star Science Fiction* series published by Ballantine Books. And because of this respect, I find it disturbing to see him involved in something I consider to be against the best interests of the field. For *Star of Stars* is an anthology of the fourteen best of the seventy-five stor-

ies already published in the eight issues of *Star Science Fiction*. It would be all right if it stopped there, but from my knowledge of publishing, I'll lay any odds that the near future will see *Star of Stars* in paperback, perhaps even under aegis of Ballantine. This will mean three repeats in book form, of each of these stories in addition to the ones which have appeared in other collections. There should be a limit to how many times the public should be offered the same food even if it is tasty.

This said, however, I must in all fairness report that the collection is indeed a stellar one with stories by Leiber, Kornbluth, Clarke and Kuttner, to name but a few. Perhaps the benefit of reaching a wide audience through constant repetition serves, in part, to offset the depressing lack of new horizons.

REPRINT DEPARTMENT:

Sentinels of Space. By Eric Frank Russell. Ace Books: 35¢. In addition to the novel, there is a list of all Ace Science Fiction currently available.

Against The Fall of Night. By Arthur C. Clarke. Pyramid Books: 35¢. This is a reprint of the author's original version which he later rewrote as *The City and The Stars*.

The Doll Maker. By Sarban.

THE SPECTROSCOPE

144 pp. Ballantine Books. Paper: 35¢.

Sarban, the author who descended on the literary scene here with such force in *The Sound of His Horn*, has written another chiller, *The Doll Maker*. Its impact is equal to that of the other book. This is no small feat because *The Sound of His Horn*, although a fantasy, was a projection of a credible situation: what would have happened had the Nazis won the war. But *The Doll Maker*, without the benefit of a truly credible set of circumstances, still manages to chill and convince.

Clare Lydgate is the central victim of this terrible chain of events. She is eighteen and a pupil at boarding school. She falls under the spell of a latter-day Merlin, a young man with an uncanny skill in the art of puppetry. Or are they really puppets?

To say too much about the plot would not be right because there is actually very little to it. There are few major characters and little action. The book consists of half tints, subtly changing thoughts and feelings, suspicions and innuendoes, so that the impact of the few violent words and deeds is electric—splashes of crimson across a murky canvas.

This then is *The Doll Maker*, another virtuoso performance by

Sarban. May there be many more!

30-Day Wonder. By Richard Wilson. 158 pp. Ballantine Books. Paper: 35¢.

Richard Wilson's light-hearted antics are very much in evidence again with the publication of *30-Day Wonder*. Earth as we know it now is invaded by (yep! you guessed it!) people from outer space. Handsome, gentle, affable, the Monolithians seemed ideal men to the goggle-eyed citizenry. And indeed they were ideal; that was the trouble. If a law said the speed limit was 25 m.p.h., they drove 25 m.p.h. Unimaginable traffic jams! If there was a Sunday closing law, ministers were prevented from preaching because they were paid and therefore preaching was work. Unimaginable righteous indignation! After testing their muscles in small situations like these, the Monolithians moved on to greener pastures like Congress and the U.N. Unimaginable consternation among the politicians and diplomats!

And through it all, the Monolithians remained smiling blandly, acting gently but firmly, upsetting our corrupt little applecarts with complete impregnability because they were wholly within the law, model citizens of their adopted country.

The book is in the form of a daily diary kept by one of the gentlemen of the press. This proves to be a very effective form for Mr. Wilson's story. But there is one reservation. Having set up such a potentially hilarious framework for the Monolithians to act within, the choice of incidents to be included could have been more varied and even funnier. However, it almost seems ungrateful to point this out after being so adequately entertained.

The Atlantic Abomination. By John Brunner. 128 pp. Ace Books. Paper: 35¢.

This is an ingenious fantasy about the discoveries of the first expedition to explore the bottom of the Atlantic in a newly perfected high pressure diving bell. For what seemed at first to be a momentous find turned into a nightmare that enslaved any one who came in contact with it.

John Brunner's fast-paced style is just the right medium to convey this horror. He keeps the interest high as remedy after remedy is tried to no avail. But in view of the intense current interest in the sea and what is beneath it, one wishes he had been more liberal in his underwater descriptions and technical details. With a little care, none of the suspense would have been sacrificed, and the result would have provided the reader with

more than a few hours of two dimensional entertainment.

The other side of this Ace Double Book features *The Martian Missile* by David Grinnell, a reprint of an Avalon Book reviewed here some time ago.

Vulcan's Hammer. By Philip K. Dick. 139 pp. Ace Books. Paper: \$35¢.

Vulcan's Hammer is another of Philip Dick's steady stream of action filled stories, and if it does not generate as much excitement as some of its predecessors, still it has enough to keep the reader's interest. Put the lag down to the fact that the subject matter isn't quite so unusual as it might be. The novel does boast a shocker of an opening, however, on a chaotic note, with no real hint who are the "good" guys and who, the "bad."

After the First Atomic War, the nations gathered at Lisbon and formally agreed that the computer machines developed by the U.S., the U.S.S.R., and Great Britain would be given absolute power over national governments in determining top-level policy. Men felt that this was the only way to free a supranational body from the hate, bias and suspicion that had divided men for so long. The conflict comes when disagreement arises between the computer, Vulcan 3, the Directors who are supposed to admin-

ister Vulcan's policies, and a grass roots movement opposed to both called the Healers. The struggle is made readable through Mr. Dick's competence, but one cannot get too enthusiastic about any of the alternatives offered. They weaken the ending and pose grave doubts about the stability of the future as it is described.

On the other side of this Ace Double Book is a John Brunner adventure called *The Skynappers* which is not reviewed since one of his books is already included this month. Prolific, eh?

He Owned The World. By Charles Eric Maine. 224 pp. Avalon Books. \$2.95.

Maybe I'm naive, but when I pick up a book that takes place in the temptingly misty future of eight thousand years hence, and find it a crashing bore, I still get a shock. And if this is naivete, well then, I hope I never lose it. I hope I never get to the point where my ideas of the future are as dull and prosaic as in this latest book of Mr. Maine's.

Robert Carson was riding the first manned rocket sent aloft, planned to circle the moon and return to earth. The rocket missed its goal and became a satellite of the sun. Carson, in despair, committed suicide. Eight thousand years later he is revived by super scientific tech-

niques. He finds himself on Mars, fated to play a leading role in the deadly game of interplanetary politics.

As a bare plot this has possibilities, but none of them are realized. Carson remains an unreal character in Mr. Maine's hands (though I suppose one mustn't expect too much of an eight thousand year old corpse), and the people who surround him lack personality, also. The idea of the state as all-powerful is an

old bone which doesn't get any fresh meat in this treatment. But most serious of all, the reader hasn't any sense of identification or sympathy or involvement with either the individuals or the sides waging this gigantic and devastating power struggle. The people of Mars, those of Earth, and the Mutants are never really distinct identities. Their plights and aims are not made to seem important. In the end, one does not care who is victorious.

COMING NEXT MONTH

The surprise feature of the March issue will be a satirical story by a famous sf writer replying to a recent article on sex-in-science-fiction published by PLAYBOY Magazine.



Our title: *Playboy and the Slime God*. Our author: hold your breath.

An unusual character-mood novella by Jim Blish, *A Dusk of Idols*, is the cover illustration story for March AMAZING.

Our classic reprint will honor the editor of a competing magazine, John Campbell, Jr., who wrote some of the greatest sf stories. Campbell's story, *The Last Evolution*, was first published in AMAZING in August, 1932.

PLUS short stories and our regular features—AND A PREVIEW of the absolutely stunning surprise in store for you with our 35th anniversary issue in April. Be sure to get your copy of the March AMAZING on sale at your newsstand February 9.

Announcing a New Series of Profiles of SF Writers—But WE NEED YOUR HELP

In response to requests from many readers, we have decided to start a series of critical profiles of some of the great names of fantasy and science-fiction. These will be written by the well-known historian of science-fiction, Sam Moskowitz. In order to make sure we select those writers whose careers are of most interest to our readers, we're asking you to indicate your preferences.

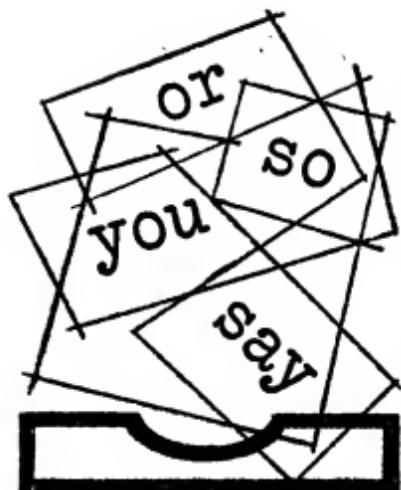
The following list suggests 20 candidates for the series. We would be grateful if you would check the names of those writers you would most like to read about. You may either mail this page to us, or—if you do not want to spoil this issue—write down your choices on a postcard.

IMPORTANT: all correspondence must reach us no later than Feb. 6, 1961, in order to be counted in this unofficial balloting.

Candidates (in alphabetical order):

- | | |
|--|---|
| <input type="checkbox"/> Isaac Asimov | <input type="checkbox"/> Murray Leinster |
| <input type="checkbox"/> Ray Bradbury | <input type="checkbox"/> A. Merrit |
| <input type="checkbox"/> Edgar Rice Burroughs | <input type="checkbox"/> Clifford Simak |
| <input type="checkbox"/> Arthur Clarke | <input type="checkbox"/> Clark Ashton Smith |
| <input type="checkbox"/> Philip Jose Farmer | <input type="checkbox"/> E. E. Smith |
| <input type="checkbox"/> Robert A. Heinlein | <input type="checkbox"/> Theodore Sturgeon |
| <input type="checkbox"/> William Hope Hodgson | <input type="checkbox"/> John Taine |
| <input type="checkbox"/> Dr. David Keller | <input type="checkbox"/> A. E. Van Vogt |
| <input type="checkbox"/> Henry Kuttner & C. L. Moore | <input type="checkbox"/> Stanley Weinbaum |
| <input type="checkbox"/> Fritz Leiber | <input type="checkbox"/> S. Fowler Wright |

Your own suggestion:



Dear Editor:

I'm afraid I must disagree with the statement of Mike Deckinger in the November *Amazing*. In it, he launches a lengthy piece on why fanzines do *not* publish fiction. While Mr. Legere was very mistaken about the nature of fanzines, and, as Mike says, fanzines are devoted primarily to fan matters.

I don't think that this excludes amateur fiction.

Why? Well, Mike seems to forget that many of today's top science fiction and fantasy writers began writing in fanzines. This, in my opinion, greatly helped them when they got around to attempting a professional sale. Why, again? Well, because a writer who has never had the opportunity to have his

work criticised by a representative number of persons who know their field is no better than the factory worker who has never been outside a city and is suddenly asked to milk a cow. For years he has been putting bolts into automobiles for a living and now he's suddenly going to *milk a cow?* Hardly. More than likely that cow is going to send him 30 yards over the fence. But if that man was NOT a city man, but had been regularly to a farm and had practiced under supervision and criticism of an expert, he'd be able to milk that cow.

It's the same with writing. There is more unpolished potential in the sf field today than any one person can realize, and before it can be brought to the attention of magazines such as yours he must have criticism, be able to see his work go before a public and find out just what he is doing wrong. Once these bugs are out then instead of 100 or 200 people he is ready to present his work to between 40 and 100,000 of the sf reading public.

I do not edit a fiction fanzine, though one issue was entirely fiction and amateur fiction will appear in almost all future issues! I am content to let the 'zine go on the basis of contributions and evolve into what may, but I also intend to present some amateur fiction to my readers. Out of hundreds of fanzines published

today I know of no other which makes it policy to publish fiction, and only 8 or 9 which publish fiction of any sort besides "faan fiction" at all!

So, while Mr. Legere is a pitiful example of ignorance as to what organized fandom is, and Mike is correct in criticising him for his ignorance and failure to find out what he's talking about before opening his mouth, he, too, must be corrected.

I could have sent this letter to Mike but I felt that the issue in question needs some clearing up too, in front of the sf public and the majority of sf fans. I hope I have made my stand clear.

Jack L. Chalker
5111 Liberty Heights
Baltimore 7, Maryland

● *Have you ever watched a writer try to milk a cow? Or fix an automobile? Helpless. They're all utterly helpless. Anyone have any comments on fan-zines as prep schools for sf pro writers?*

Dear Editor:

I have been a subscriber to *Amazing* for a substantial time. I can therefore state that in my opinion *Amazing* is the best Science-Fiction magazine on the market.

Since the Oct. issue I have seen an all 'round improvement. What more could a fan ask for?

. . . OR SO YOU SAY

One more comment in reference to John Foyster's letter. The only boo-boo I could find in Blish's "And All The Stars A Stage" is when he wrote "He buried them in the sands not far from Faiyum." It seems that at the time of the story the area surrounding Faiyum was green and lush, not desert as it is today.

Leonard A. Senerote
408 Audubon Circle
Belvedere, S.C.

Dear Editor:

When you began publishing serials a few months ago, I was a bit leary of the outcome; but there have been so many good ones of late that I'm reversing my stand completely and endorsing serials in *Amazing* to the hilt.

Looking at the latest serial, "The Last Vial," I'm overjoyed to see that the science fiction field is still turning up new writers of high calibre; Dr. McClatchie is a Godsend . . . and his novel should find an eager hardcover market.

Bobby Gene Warner
5316 Old Cheney Highway
Orlando, Florida

● *Strangely enough, an editor stands a better chance of getting a good serial than a good novel. Perhaps because writers are writing the serial-lengths, aiming at paperback reprint as well as a magazine sale.*

Dear Editor:

As for some of the comments in the letter department, I have a few faults to find. I always do—with people who find too much fault. Now the fifth paragraph of Mike Deckinger's letter is one big mistake. Don Legere never referred in any way to the number of pages of letters in a pro-zine. He said: "It's rather strange to buy a magazine primarily to read letters." I defy Mike to show where Don said that the majority of a mag should not (or should) be devoted to letters. He never approached the subject except to ask why anyone would want fanzine reviews, 12 pages of letters, book reviews, illos, etc., to take up valuable space. You read too fast, Mike.

And have you ever read any fanzine reviews? *Amazing* used to have them, but gave them up. They're quite dull. I'd rather read the fanzines and nix the reviews. Now it would be quite a setup if *Amazing* could include fan news and articles every month, but of course that would take up too much space. I'll just go along with Clayton Hamlin's idea to skip the fan columns and leave the letter column alone.

Ziff-Davis mags aren't the only ones with letter columns. *Analog* has one, but it's not too hard to understand what Mike means. Yours is unique.

The inside illos weren't too good, but the cover on the Nov. issue was really great. More by Emsh, and maybe a Valigursky.

Blish's novelet held a few surprises, and was well written. Reynolds wasn't quite up to par but his was still a pretty good yarn, and probably the best in entertainment despite a plot that seemed a little creaky with age.

The serial gave me the biggest surprise. As a first story I expected a lot of crud, or because it was written by a biologist, I figured it might be hard and dull like Fred Hoyle's first novel was. I'm glad to say I was completely wrong. It was very well written, expertly combining science with human interest. Even the sex was worked into the yarn in a smooth manner, and didn't seem unnecessary or out of place like in the otherwise good, "Transient." I'm quite sure the last two installments will be equally as good.

Cele, answer two questions.

1. Is everything serials now or will there be some more one-shots?

2. Are you planning anything by Eric Frank Russell?

David Locke
P.O. Box 207
Indian Lake, N.Y.

• Answer 1: No, there will be more one-shots, such as the Chandler short novel in this is-

sue. Answer 2: The question is, more realistically, is Eric Frank Russell planning anything for Amazing.

Dear Editor:

Emsh's exterior illo, depicting "And Some Were Savages," was really something to behold; it retained all of the scope and grandeur needed if a picture is to have life. Congratulations, Mr. Emshwiller.

Despite the obvious complacency prevalent in connection with the work of David R. Bunch, I wish to commend him upon his descriptive sketches of life in Moderan.

Glen Christianson
Detroit, Mich.

Dear Editor:

A few comments on the new *Amazing*, November issue:

I read "The Last Vial" with great enthusiasm. It is the best story of its kind that I have ever read, in fact the only story of its kind that I've read. I hope that short story by Dr. Sam will be along soon. I like the including of so many details in his story.

The cover by Emsh is the best that I have ever seen on either *Amazing* or *Fantastic*. It served as a very good illo for James Blish's "And Some Were Savages" which I also enjoyed. I notice Mr. Blish also included some biology.

... OR SO YOU SAY

Needless to say, I also enjoyed Mack Reynolds's story "Medal of Honor." In fact, I enjoyed every story in this issue, even Bunch's "The Warning."

Lester del Rey brought out some very interesting points in his article. Since Lester also writes fiction why don't you commission him to write a story or novel based on these ideas? It would be very interesting. I'm sure the readers would enjoy it.

I see that you are going to start this classic reprint series next issue. If you have ever printed a story by Robert A. Heinlein, which I doubt very much, I would like to see it reprinted, or—even better—how about a new story by the same author.

Now, I have a request: I have read about these "Shaver" stories that were printed by Ray Palmer. That is the extent of my knowledge. Would you please see fit too tell me and I'm sure some other new fans who are also curious what these stories were.

Scott Neilson
731 Brookridge Dr.
Webster Groves 19, Mo.

● *Do you realize what you are asking, man? You are going to bring the roof down with that kind of request. Will some reader, please enlighten Mr. Neilson in privacy?*

Dear Editor:

Picked up the November issue of *Amazing* last night, the second issue of the "new" *Amazing*. I would like to give you my own evaluation on things so far. Since there have been so many changes in *Amazing*, the only way one could comment on these changes would be to take these new developments by sections.

First let us take the physical make-up: your covers have been excellent. You finally did decide to break down to conformity and get Emsh for a cover. All the major mags except yours have featured Emsh on the cover at one time or another, up until this issue that is. Keep him coming. The cover by Schomburg wasn't in his best vein. Don't give up on him either, though. What's the chances of getting Kelly Freas for a cover? Let us not forget Mr. Valigursky in this rush for betterment. He still rates among the best of sf illustrators. I like the new cover blurb on this issue. Keep it. The new quality of paper not only makes the magazine more compact and sturdy, it smells good too. The only gripe I can find in the physical aspect of your magazine is that thin paper sheet you use for the cover. It tears so easy. How 'bout putting a little starch in them.

Ever since *Amazing* was enlarged to its present 146 pages a year or so ago, there has been

a steady upgrade in the quality of stories printed in it. Such stories as "Hunters Out of Time" by Joseph E. Kellam, "Transient" by Ward Moore, "And All the Stars A Stage" by James Blish, "The Galaxy Primes" by E. E. Smith, "Omega" by Robert Sheckly, are all classic and controversial novels to appear in *Amazing Stories* during the past few months. I don't think you can get much material any better than these stories, but you can continue to get it just as good, so keep at it.

Those new monthly science articles by Lester del Rey. They must be very entertaining because they are the first science articles in any sf mag that I have looked forward to reading. So far they have both been very stimulating. About the November article Mr. del Rey, damn right the countries of China and India have advanced without enforcing monogamy. They've advanced to the stage where their countries are so over-populated that the people are starving to death by the hundreds. That's advancement?

Your longer editorials have been fine so far. Keep them dealing with things of sf nature. You have a science fact article now, so you don't need to concern the editorial with science fact.

"The Spectroscope" by S. E. Cotts—very good. With his add-

ed space, Mr. Cotts is beginning to show as a personality instead of a space filler. He has proved to be a better book reviewer than I had been giving him credit for.

About this new "Classic reprints." Bah! You and I both know that with the serials and all in *Amazing*, there is not going to be enough room for any of *Amazings* really great classics. By great classics I mean such stories as "The New Adam" by Stanley G. Weinbaum, the Edgar Rice Burroughs Martian novels, many by David H. Keller, MD, last, but far from least, stories by Don Wilcox. If you were planning on bringing back such works as these, I would be the first to welcome the idea.

In closing I would like to comment on your new serial "The Last Vial" by Sam McClatchie MD. If the next two installments follow through like this first one, I am sure there will be more controversy over this story than there was with "Transient."

Hope you can hold up the high standards you have set for *Amazing Stories*.

Harry Thomas
124 Cherokee Ave.
Athens, Ga.

OK, so you say 'Bah!' But as long as we smell good, what more do you want? Who else thinks "The Last Vial" will be controversial?

... OR SO YOU SAY

Dear Editor:

Dr. McClatchie may not be aware of it, but he has probably triggered the next fad or boom in the science fiction industry. As you so aptly put it in your editorial the biological and medical field science fiction story has been absent for quite some time now and a novel such as the masterpiece being serialized in *Amazing* is just the thing to start a vast influx of that type story. "The Last Vial" is one of the most interesting novels I have read in several months. Completely unique in comparison with anything else I've read along that line. Heretofore Jack London's "The Scarlet Plague" was the only decent piece of biological stf I had read in quite some time.

Have you noticed how things seem to catch on in the field when some writer comes up with something new? I am speaking, of course, in regard to the *probable* expansion created by McClatchie, but there have been other things, too. The Sputnik era brought forth a line of satellite stories, and about a year ago, almost every author had a hero who tugged on his ear lobe when perplexed or embarrassed. And now there hasn't been a single ear lobe-tugger in many issues of *Amazing*.

Strangely enough, or perhaps it was planned as such, the serial

tied in somewhat with Lester del Rey's article on polygamy. In such a situation as depicted in the story, any survivors or immune males would naturally be forced to enter into polygamy to continue propagation of the race on the North American continent. I find that case (in the event of reality) one of the few that leads me to accept logically or morally the possibilities of polygamy. My basis for that statement doesn't come from a detailed philosophical or theological study of the subject, but from the layman point of view. Being a teenager, I naturally experience the pitfalls of adolescent "puppy love" inasmuch as the typical teenager is in love one day and out of love the next day. There is little or no stability with me so I find it difficult to grasp and accept the facts related by the author, although I seem to *feel* that they could very well be true. I would like to hear some more comments on this subject. It could develop into a most interesting discussion in the lettercolumn if some of the readers will step forward and voice their opinions. The only thing discussed these days seems to be the loss of fanzines in the pro mags.

Billy Joe Plott
P. O. Box 654
Opelika, Alabama

• *Polygamy, anyone?*

Dear Editor:

Just finished reading the first part of "The Last Vial" and I hasten to say I just can't wait until the December issue of *Amazing* hits the newsstands. This story has really got it in my opinion. Brings back memories of such stories as "The Star Kings" and "The Involuntary Immortals." I sure hope you are going to reprint some of the greats of years gone by.

I still need a few copies of *Amazing Stories* and *Fantastic Adventures* to complete my collection. If anyone has any to sell, I'd like to hear from him.

Ray J. Wise
12 Golda St.
Lake City, Tenn.

• *Reprints, as per recent notices in the editorial column, are not only coming up—they're here already!*

Dear Editor:

Just thought I'd write to give my approval on McClatchie's serial "The Last Vial." In my opinion it is by far the best in November's *Amazing*. "And Some Were Savages" was pretty good except for a dull beginning. "Medal of Honor" was very good. Bunch's "The Warning" was terrible!

As a whole, your November *Amazing* was very agreeable.
Jimmy Douglass
Senath, Missouri

Dear Editor:

I see Ann Fawler has answered my letter. In reply to her two points:

a. The editor had better consider the customer to be always right. If the editor doesn't listen when the customer puts in his two cents worth he may take his 35¢ elsewhere. After all, we have to read this if you're going to keep your job.

b. An editor's supply of money is linked to the demand of the readers. The seed of the tree an editor's money grows on is good stories.

The thing that bothers me about the recent letter column is that so many of the letters are from defenders of the magazine, saying—"I got no complaints! You shut up! If you can't say anything good about the magazine, don't write!" This type of letter was what got sf into the rut it's been in for the last decade. If we don't tell you when a story is lousy, you'll be right back in the rut again. If people like Ann Fawler don't have any complaints, they shouldn't write letters. All these people who rush to the defense of their favorite magazine with the mistaken idea that they are doing it a favor—they're not. Probably the reason they have no complaints is that they are neofans and have never read any really good sf.

I've read old copies of *Argosy*

and *Weird* from the Golden Age, and read FFM's reprinting their stories. I've read issues of *Amazing* published in Palmer's day, and copies of *Other Worlds* from 1955 to 1957 when Palmer decided to make his magazine the worlds best—and succeeded. I know good science fiction, even though I can't claim to know "all about modern sf" like Dave Locke. But that's beside the point. The point is, that if we readers don't attack all bad stories and applaud all good ones, the same thing will happen to *Amazing* that happened to so many magazines in '53. It will go lousy, and then out of business. One time one of the blasted "defenders" wrote me a very nasty letter about a letter in which I had criticised an issue of *Fantastic*. Later I found out she hadn't even read that issue, but simply rushed blindly in—if these people aren't going to help me, I wish they would at least keep out of my way. I am going to prod you editors into that Golden Age if I have to arrange a necktie party for every author who doesn't come up to that standard. I've made some suggestions—now it's up to you.

Paul Zimmer
R.D. #1
East Greenbush, N. Y.

• *Golden Age, here we—ouch!*
—come.

Dear Editor:

As a sf addict of several year's good (?) standing, I feel that Carl Clemente's letter attacking Kate Wilhelm in particular and all female sf writers in general unfounded and unwarranted. While I haven't read any of Miss Wilhelm's works, including the one Mr. Clemente uses as his prime example, he is extremely unfair to ignore several top woman authors.

There is Judith Merril, a top author and anthologist. She has written almost everything from pure adventure in the *Northwest of Earth* series to several of Clemente's "social phenomena." Her anthologies range equally.

Mildred Clingerman, Idis Seabright, Miriam Allen deFord, and Pauline Ashwell are four more who deserve attention as writers of good sf; the last three have had published stories in, respectively, *Fantasy and S-F* for February 1959, March 1960, and *Analog* (Astounding) for October 1960. Also worth mentioning is "The Willow Tree," which appeared in the same issue as Miss deFord's piece; it's a new time-travel twist with a mixture of witchcraft. Comment, Mr. Clemente.

Congratulations on your reprints of sf classics from your back files. Starved as this town is for H. P. Lovecraft, I was a great deal pleased by your choice

for the first in the series, but I don't think the story by Wyndham-Harris was as much up to your standards.

Bruce Mailman
2118 University Avenue
Bakersfield, California

• *All right, Clemente, are you going to defend yourself?*

Dear Editor:

A few comments concerning recent issues.

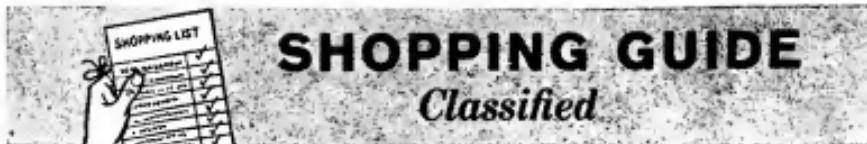
October '60: The cover, no less than fabulous will serve as a fitting complement. Clifford Simak's novella was excellent. I might even go so far as to say it's his best work since "City." How you were ever able to land so fine a story from so fine an author must have been a masterpiece of statesmanship. I suggest President-elect Kennedy make you Secretary of State.

The remaining stories were definitely superior tales which would have done credit to any of the "better" magazines.

November 60. Not as good as the previous issue, but since I am not reading the serial until all three installments are on hand, my judgment is incomplete.

The novelets were a surprise, in that two good authors turned in such not-so-good performances. "Medal of Honor," however, was the better of the two.

(continued on page 146)



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... OR SO YOU SAY (continued from page 144)

Lester del Rey's article was, in a word, ridiculous. As history has shown, no matter how man's environment changes, he still clings to his mores, no matter how illogical they be. If man were a logical being, his system would serve well, however, (fortunately or unfortunately) man is a completely illogical entity.

The rest of the issue was palatable, with the exception of the David Bunch story which is a bit too far out in orbit for my tastes. But I do get the point of the stories.

December 60. A better cover would be downright impossible

I have a sneaking suspicion that Theodore L. Thomas is the nom-de-plume of either Robert Sheckley or Brian W. Aldiss.

To Carl A. Clemente: I have

no farther to go than Andre Norton in a search for top-calibre female sf writers. She can put most writers of either gender to shame. If you don't think so, then you haven't read "The Last Planet" (Star Rangers) nor "The Stars Are Ours!" Also, let's not forget Catherine L. Moore nor Margaret St. Clair, nor Judith Merril nor Shirley Jackson, nor Zenna Henderson. (Where can you find more believable aliens than *The People*?)

Anthony Ryan
1941 Marber Ave.
Long Beach, Calif.

• *Thomas is Thomas. And we have turned down an appointment as Kennedy's Secretary of State. Holding out for that Ambassadorship to Mars.*

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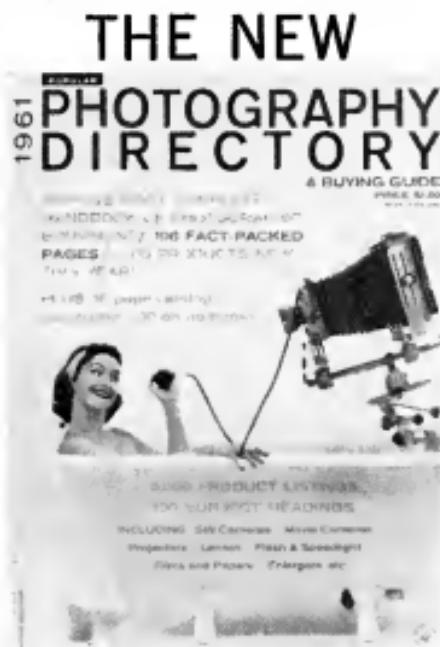
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